



NITIE
National Institute of
Industrial Engineering

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Global Online Certification Course on

BUSINESS ANALYTICS

From Data to Insights and
Decision Making-2023

Launched by
NITIE, Mumbai
under
PM
GatiShakti
Scheme



Course Instructed by world-renowned scientist



Prof. David Simchi-Levi

**MIT Professor - Business & Supply Chain Analytics,
Director - Data Science Lab,
Massachusetts Institute of Technology, USA**

Prof. David Simchi-Levi is the most renowned Professor and Thought Leader in the field of Supply Chain Management and also serves as the Editor-in-Chief of Management Science. He is the recipient of the prestigious INFORMS Impact Prize 2020 for his work on Supply

Chain Resilience. His book, "Designing and Managing the Supply Chain" (with P. Kaminsky and E. Simchi-Levi) is a staple across B-schools for their Supply Chain Management courses.

He is the founder and chairman of LogicTools which provides software solutions and professional services for supply chain optimization. The company has provided decision support systems to clients such as Caterpillar, ConAgra, Kraft Foods, Mercer Management, Ryder, SC Johnson, UPS, U.S. Postal Service, Walgreens, etc. and was acquired by IBM.

Prof. David Simchi-Levi had associated with NITIE for the Global Online Certification Courses on Supply Chain Digitization and Management as well as Business & Operations Analytics, which were highly successful courses with over 2500 participants from all over the world in each course.





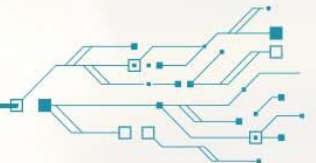
Prof. Manoj K. Tiwari

Director, NITIE Mumbai

Prof. Manoj Kumar Tiwari (FNAE, FNASc, FIIIE, FIISE, and FIETI) is Director, National Institute of Industrial Engineering (NITIE) Mumbai from November 2019. He was a Professor with Higher Academic Grade (HAG) in the Department of Industrial and Systems Engineering at Indian Institute of Technology, Kharagpur and currently on lien for five years. As a researcher, he is working in the domain of Manufacturing System and Supply Chain Management. His research and teaching interests are in modeling the Manufacturing Processes and

Operations analysis in Supply Chain Networks. Optimization, Simulation and Computational Intelligence are the main techniques adopted by Prof. Tiwari to automate the decision support system for complex and large-scale problems in Manufacturing and Logistics System.

He is the Recipient of Mahalanobis Distinguished Educator Award from the Operations Research Society of India (ORSI), in the category of Management education (2017). He is listed among Top 20 most productive authors in the area of Production and Operations Management as reported in the last 50 years (Published in a survey article in Int. Journal of Production Economics, 2009, 120, 540-551) and rated 2nd among many researchers working in Logistics and Supply Chain Management in India (Analysis of the logistics Research in India-White paper published in TU Dortmund University, Dortmund Germany-2012).



Overview

Business Analytics refers to the ways in which enterprises such as businesses, non-profits, and Governments can use data and analytics to gain insights and make better decisions. Business analytics is applied in operations, marketing, finance, and strategic planning, among other functions. The ability to use data effectively to drive rapid, precise and profitable decisions has been a critical strategic advantage for companies as diverse as Walmart, Google, Nike, Capital One, and Disney.

For example, Capital One uses sophisticated analytic capabilities to match credit card offerings to customers more accurately than their competition. WalMart uses data and analytics to monitor and update its inventory in a way that allows it to serve its customers at an exceptionally low cost. In addition, many current and recent start-ups, such as Palantir and Splunk are based on the application of analytics to large databases.

With the increasing availability of broad and deep sources of information — so-called “Big Data” — using this abundance of data to make better business decisions is becoming an even more critical capability for enterprises of all types and sizes. In this course, you will learn to identify, evaluate, and capture business analytics opportunities that create value. Towards this end, you will learn basic analytics methods and analyze case studies that describe organizations that successfully deployed these techniques.

NITIE Global Online Certification Course on ‘Business Analytics’ from Data to Insights and Decision Making-2023 aims to broaden professionals’ business analytics know-how and skills. You’ll learn to identify, evaluate, and capture business analytics opportunities that create value.

In the first part of the course, we focus on the use of optimization to support decision-making in the presence of a large number of alternatives and business constraints. In the second part of the course, we focus on how to use data to develop insights and predictive capabilities via machine learning, data mining and forecasting techniques. Finally, throughout the course, we explore the challenges that can arise in implementing analytical approaches within an organization.

The course emphasizes that business analytics is not a theoretical discipline: these techniques are only interesting and important to the extent that they can be used to provide real insights and improve the speed, reliability and quality of decisions. The concepts learned in this class should help you identify opportunities in which business analytics can be used to improve performance and support important decisions. It should alert you to the ways that analytics can be used — and misused — within an organization.

We have three goals in this course. The first is to help you think critically about data and the analyses based on those data — whether conducted by you or someone else. The second is to enable you to identify opportunities for creating value using business analytics. The third is to help you estimate the value created using business analytics to address an opportunity.

Business analytics is an integral part of modern management — this course should provide you with the foundation you need to understand and apply these methods to drive value.

“
The global big data and business analytics market size are projected to reach \$684.12 billion by 2030.
”



Core Focus



Program Highlights

- ◆ Live classes by highly experienced faculty member of MIT, USA & NITIE Mumbai
- ◆ Participants will get the opportunity to interact live with Prof. David Simchi-Levi from MIT
- ◆ Learn without a career break
- ◆ Highly recognised Certificate of Completion from NITIE
- ◆ The program covers aspects from data to business decisions



Course Content

Week 1

- ▶ Course Overview
- ▶ Introduction to Business Analytics
- ▶ Digital Transformation

Week 2

- ▶ Optimizing Complex Decisions
- ▶ Linear Programming Formulation
- ▶ Demonstration of the Spreadsheet Optimization Method
- ▶ Shadow Price
- ▶ Sensitivity Analysis

Week 3

- ▶ Linear Regression
- ▶ Logistic Regression
- ▶ Classification & Regression Trees
- ▶ K-Nearest Neighbour
- ▶ Bayesian Analysis
- ▶ Error Types

Week 4

- ▶ Neural Network
- ▶ Variable Selection Techniques
- ▶ Categorical Variables
- ▶ Model Selection
- ▶ Integration of Techniques

Week 5

- ▶ Case study: Supply Chain
- ▶ Unified View of Demand
- ▶ Supply Chain Segmentation
- ▶ Smart Planning & Execution
- ▶ Supply Chain Resiliency

Week 6

- ▶ Case study: Pricing
- ▶ Online and Offline Retailer examples
- ▶ Estimating Lost Sales
- ▶ Price Elasticity of Demand
- ▶ Error Estimates
- ▶ Pricing Decisions
- ▶ Course Summary



Fees

For Individual Registration

Category	Fee Category	Amount
For Indian Participants	Industry Professionals	INR 24000/-
	NITIE Alumni	INR 22000/-
	Bulk Industry	INR 20000/-
	Students	INR 10000/-
	Bulk Students	INR 9000/-
Foreign Participants	Foreign Students	USD 450/-

*Convenience fees may apply.

For Bulk Registrations from one Organization

Category	Number of Participants	Total Fee (inclusive of taxes)*
Students	11 and above	INR 9,000/- per participant
Industry Professionals	11 and above	INR 20,000/- per participant

*Convenience fees may apply.

*TCA

Scholarship upto 60% available*

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Course Structure

► Schedule

- 11th February 2023 – 19th March 2023
(5:00 PM – 7:30 PM IST | Saturday & Sunday | 30 Hours duration)
6 Weeks (12 Sessions - 2.5 Hours/Session)

► Mode of Instruction

- Online Platforms

► Registration Deadline

- 9th February, 2023 (Thursday)



Success of Previous Batch by NITIE

NITIE has successfully completed Global Online Certification Courses on: 'Business Analytics' (2021 & 2022) in association with Prof. David Simchi-Levi.

All the courses received an overwhelming response from 12000+ individuals from reputed national and international organisations. Some prominent academic institutions include the IITs, IIMs, IIFT, University of London, University of Warwick along with prominent organisations, which include P&G, HUL, GE, ITC, Amul, Deloitte, General Mills, IBM, Titan, Reliance, PwC, Siemens and many more.

Course Statistics



3000 Participants



700+ Professionals



350+ Organisations



17 Countries

Course Rating

Extent and Depth of Topics Covered



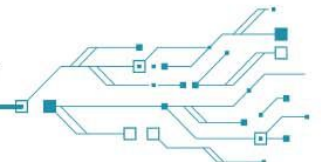
Relevance of Supplementary Materials



Course Management by NITIE



Application of Concept Learnt



About NITIE

National Institute of Industrial Engineering (NITIE), established in 1963 by the Government of India with the assistance of United Nations Development Project (UNDP) through the International Labour Organisation (ILO), is one of the leading institutes for Management education. NITIE, a pioneer in Industrial Management has been positioned 9th amongst management schools in India by National Institutional Ranking Framework (NIRF) in 2022. NITIE, widely known as the leading Institute in Supply Chain and Operations, holds a purpose in advancing transformative education and industry inspired research in different domains, thus dedicating itself to help Indian businesses to make their presence felt globally. The institute has a strong linkage with private and public sectors, national research institute, other academic institutions, universities, government organisations, and communities. NITIE is dedicated to help Indian businesses to make their presence felt globally. NITIE has decided to act as driving force not only in manufacturing sector but all dynamic sectors of the Indian economy. It has aligned its vision and activities in line with the current and future needs of the Indian economy and its vibrant and growing sectors.

Connect with the Coordinating Team

Faculty Coordinators from NITIE, Mumbai:

- Prof. T M Rofin
- Prof. M.S. Mahapatra

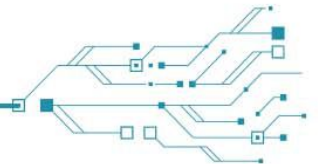


About PM GATI SHAKTI INITIATIVES

The PM Gati Shakti - National Master Plan was announced last year with an aim to celebrate 75 years of a progressive India and the glorious history of its people, culture, and achievements. The objective is to break departmental silos and lay the foundation for holistic infrastructure development to address the multi-modal and last-mile connectivity issues pertaining to supply chain and demand management.

The Global Online Certification Course on Business Analytics: From Data to Insights and Decision Making 2023 offered by NITIE, Mumbai, in association with MIT Data Science Lab, is exclusively curated to provide a roadmap for industry practitioners to understand the cardinal aspects of technology trends, digitisation, analytics, and automation to reinvent the supply chain.

This course aims to provide participants with a profound understanding of leveraging technology to improve operational efficiency and decision-making across the supply chain to accelerate the idea of the Gati Shakti Master plan.



About Jaro Education



Jaro Education (est. 2009) has been India's most trusted online higher education company and a pioneer in the executive education space. Since its inception, the company has been profitable and believes in structured growth. The company aims to nurture entrepreneurs and working professionals from entry-level to C-Suite level in every field and industry by offering quality executive education programs from the world's leading institutes and universities.

**Schedule a call with
our admission representative**

Anand Krishnan

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