INTERNATIONAL MANAGEMENT INSTITUTE, BHUBANESWAR
PROGRAMME NAME: PGDM
IS610: Supply Chain Analytics
CREDIT: (1.5 credits)
SESSION DURATION: 60 Minutes

TERM: V
ACADEMIC YEAR: 2019-2020
BATCH: PGDM (2018-20)

Faculty: Prof. Niraj K. Vishvakarma
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Office hours: 9.30 AM – 5.30 PM
Consulting hours: Every Friday, 2.30 PM – 5.30 PM

Course Introduction:

Supply chain Analytics (SCA) has emerged as a key area for Business organization, in the fierce completion in the today's global market. In the global business SCA has become very important to understand the business evolution due to change in supply chain structures (from dyadic relation to network and circular economy), evolution of contract structures in supply chain coordination, forecasting of environment, Performance measurement and management, and globalization.

The course will present an elucidative introduction of all the aforementioned dimensions. We shall explore the nuances of (1) Decision making in SCM (ii) coordination Mechanism (III) Contracts in the Supply Chain Network (IV) Role of information in SCA.

Learning Outcomes:

The following are the learning outcomes of the course:

1. Introduction to Supply chain Analytics (LO1)

2. Develop analytical skills for demand forecasting in Supply Chain (LO2)

3. Inventory and resource management (LO3)
4. Analyzing Supply Chain risk using decision tree (LO4)

5. Purchase and operations Planning (LO5)

6. Role of Big data in supply Chain Analytics (LO6)

Pedagogy:

The teaching methodology in the course will be combination of lecture delivery in the class, hand on Practices of problem/example solving and case discussion. The addition to that additional reading material will be provided time to time for making the better understanding and broadening the subject knowledge.

Reading Materials

Books:

1. Simchi-Levi, D., Kaminsky, P., Simchi-Levi, E., & Shankar, R. (2008). *Designing and managing the supply chain: concepts, strategies and case studies*. Tata McGraw-Hill Education.

Chopra, S., & Meindl, P. (2007). Supply chain management. Strategy, planning & operation. Pearson.

Course Evaluation Criteria

Evaluation Component	Learning Outcomes	Weightage
Project	LO1-LO10	20%
Assignment	LO1-LO15	20%
Quiz	LO1-LO10	20%
End Term	LO1-LO15	40%
Total		100%

Plagiarism

We are committed to upholding the highest standards of academic integrity and honesty. Plagiarism is the use of or presentation of ideas, works that are not one's own and which are not common knowledge, without granting credit to the originator. You may refer the already available content just for your reference and to get the basic ideas. Only 20% of such content is acceptable, above that comes under the definition of Plagiarism which is unacceptable in IMI and will be treated seriously. All such cases will be referred to the appropriate body of the Institute for suitable disciplinary action.

Session Plan:

Session No.	Topic	Learning Outcomes	Reading
1–2	➢ Course Over View • Introduction to Supply Chain Analytics • Different Types of Analytics in Supply Chain	LO – 1 LO – 2	Reading: Supply Chain Analytics, (2014) by Gilvan C. Souza
3-4	➢ Big data Analytics and Supply Chain Management • Application of Big Data in the different components of Supply Chain	LO1 LO8	Reading: Supply Chain Analytics, (2014) by Gilvan C. Souza

5-6	➢ Demand Analysis in Supply Chain ➢ Bullwhip effect and Time Series Analysis ➢ Exponential smoothing of forecasting	LO – 2	Ch. 7 Book: _Supply chain management. Strategy, planning & operation, Pearson._
7-9	➢ Inventory and resource management ➢ Optimising the level of Inventory availability in Supply Chain ➢ Multi Echelon Inventory Management ➢ Multi Echelon Inventory Management for different Stations: Using numerical example	LO – 3	Readings: Making Supply Meet Demand in an Uncertain World, **By** Marshall L. Fisher, Janice H. Hammond, Walter R. Obermeyer, Ananth Raman
10-13	➢ Purchasing and supply management Sales and operations planning • Pricing and Revenue Management for Perishable and seasonal product • Sales and Operations Planning Using excel • Inventory Planning and Economics theory Aberrations	LO – 1 LO – 5	Ch. 8 & Ch. 16 Book: _Supply chain management. Strategy, planning & operation, Pearson._ Ch. 6 & Ch. 13 Book: _Designing and managing the supply chain: concepts, strategies and case studies._
14-15	➢ Supply Chain Contract and Co-ordination Analysis • Under Asymmetric Information • With Nonstrategic Component • Using Decision tree for handling uncertainties	LO – 3 LO – 4	Ch. 5 & Ch. 11 Book: _Designing and managing the supply chain: concepts, strategies and case studies._ Case Study: _Demand Forecasting for Perishable Short Shelf Life Home Made Food at iD Fresh Food. By Raman Narasimhan;_
16-17	Project Presentation & Evaluation	Students Presentation	Each group is required to take a company of their choice and required to study the technique used by company to optimize the operations of supply chain of the company and give their recommendation for improvement