

LSCM 7009	Demand Planning & Forecasting	L	T	P	C
Version 1.0		3	0	0	3
Pre-requisites/Exposure	Under Graduate Level Business & Management Knowledge				
Co-requisites	Knowledge of Operations Management, LSCM				

Course Objectives

- a) Provide an understanding of strategic demand and capacity planning.
- b) Understand and be familiar with different qualitative and quantitative forecasting techniques and their application in the business context.
- c) Have a conceptual understanding of different types of Inventory, their classification and management.
- d) Knowledge of the procurement process in a manufacturing organisation, purchase management and negotiation strategies.
- e) Methods of vendor selection, evaluation and management leading to a mature supplier base.
- f) Cost effective and efficient demand management.

Course Outcomes

On completion of this course, the students will be able to

- CO1. Develop conceptual skills required for demand planning and forecasting.
- CO2. Analyse how CPFR provides competitive advantage to an organisation.
- CO3. Analyse issues & challenges in developing and implementing procurement processes for any organisation.
- CO4. Apply the process of developing strategic cost management for improving organisation performance.
- CO5. Developing strategies to manage supplier/ customer business relationships and conduct effective purchase negotiations.

Catalog Description

As supply chains become better adapted to the changing business environment, the role of strategic capacity creation has assumed significance. Understanding the global dynamics and setting up sourcing capacity, either through manufacturing or outsourcing, keeping in mind the various parameters of cost and customer focus is primary. The course aims to impart the necessary skill sets for demand planning, forecasting and management and provide students with the analytical tools needed to analyse complex business situations and apply theoretical concepts to arrive at solutions. The students will be required to understand advanced forecasting techniques aimed at strengthening their competency. Based on these they will also aim to understand the role of CPFR in increasing supply chain efficiency, particularly the use of ICT. The dynamics of identifying, developing and maintaining a mature and stable supply base needs to be understood as well as its role in keeping inventory levels of an organization at optimum. Inventory classification and management are an important aspect of demand management particularly with respect to satisfying customer needs in the event of uncertainty. Controlling supply uncertainty and its impact on strategic cost of procurement will add to the efficiency of an organization.

Course Content

Module I: 7.5 lecture hours

Introduction to Demand planning & Forecasting – Demand planning, forecasting and management, its role, advantages for Supply chain efficiency and responsiveness.

Unit II: 4.5 lecture hours

Collaborative planning, forecasting and replenishment – CPFR as a demand planning method, impact on supply chain efficiency and responsiveness.

Unit III: 10.5 lecture hours

Overview – Terms and definitions – Managing the procure to pay process – Indenting, tendering, negotiation, ordering, financial arrangements for purchase, follow up, pre dispatch inspection, transportation, receipt, documentation, quality assurance and bill processing. Payment methods, working capital impact.

Unit IV: 6 lecture hours

Developing a world class supply base : Supplier evaluation and development – vendor identification, development, evaluation and control.

Unit V: 7.5 lecture hours

Strategic Cost Management – Purchase strategies, cost effective procurement, vendor support, costing and optimization.

Text Books

1. Monczka R. et al (2007) – Purchasing & Supply Chain Management ,Thomson, Third Edition

Reference Readings

1. Hanke J.E. et al (2001)– Business Forecasting ,Prentice Hall, Seventh Edition
2. Makridakis S. et al (2017) – Forecasting – methods & applications ,Third Edition

Modes of Evaluation: Quiz/ Project submission/ presentation/ Class room and case discussion/ Written Examination

Examination Scheme:

Components	Quizzes	Case Study and class	Group Project Presentation/ Submission	ESE

		discussion		
Weightage (%)	10	20	20	50

Relationship between the Course Outcomes (COs) and Program Outcomes (POs)

Mapping between COs and POs		
	COURSE OUTCOMES (COs)	POs
CO 1	Develop conceptual skills required for demand planning and forecasting.	PO 1,2, 3,4,7,8,9,10, 11,13, 14
CO 2	Analyse how CPFR provides competitive advantage to an organisation	PO 1,2, 3, 7,8,9,10, 11,14
CO 3	Analyse issues & challenges in developing and implementing procurement processes for any organisation.	PO 1,2, 3, 8,9,10, 11, 13,14
CO 4	Apply the process of developing strategic cost management for improving organisation performance.	PO 4,5, 8,12,13, 14
CO 5	Developing strategies to manage supplier/ customer business relationships and conduct effective purchase negotiations.	PO 1,2,3,4,7,8,9

Program Outcome / Course Outcome mapping

Course Outcomes	CO 1	CO 2	CO 3	CO 4	CO5
PO 1	3	3	3	2	3
PO 2	3	3	3	2	3
PO 3	3	3	3	2	3

PO 4	3	1	1	3	3
PO 5	2	2	1	3	1
PO 6	1	1	1	1	1
PO 7	3	3	1	2	2
PO 8	3	3	3	3	3
PSO 9	3	3	3	1	1
PSO 10	3	3	3	2	1
PSO 11	3	3	3	2	2
PSO 12	1	1	1	3	2
PSO 13	3	1	3	3	3
PSO 14	3	3	3	3	3

Course Code	Course Title	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PSO 9	PSO 10	PSO 11	PS12	PSO 13	PSO 14
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		Students will be able to develop and evaluate alternate managerial decisions and identify optimal solutions	Students will demonstrate effective application capabilities of their conceptual understanding to the real world business situations	Students will be able to exhibit effective decision making skills, employing analytical and critical thinking ability	Students will demonstrate effective oral and written communication skills in the professional context	Students will be able to work effectively in teams and demonstrate team building capabilities	Students will exhibit leadership and networking skills while handling business situations	Students will demonstrate sensitivity towards ethical and moral issues and have ability to address them in the course of business	Students will demonstrate employability traits in line with the changing dynamics of the industry	Students will demonstrate strong conceptual knowledge in the functional area of management as well as LSCM domain	Students will demonstrate effective understanding of relevant functional areas of management and their application in LSCM	Students will demonstrate analytical skills in identification and resolution of business problems pertaining to LSCM & general management	Students will exhibit the ability to integrate functional areas of management with domain perspective for the purpose of planning, implementation & control of LSCM	Students will have global perspective towards business situations in the area of LSCM	Students will exhibit deployable skills pertinent to the LSCM sector

- 1 – Weakly mapped
- 2 – Moderately mapped
- 3 – Strongly mapped

Model Question Paper

Name:			
Enrolment No:			
Course: LSCM 7009 – Demand Planning & Forecasting Programme: M.B.A (LSCM) Semester: Even 2017-18 Time: 3 hrs. Max. Marks: 100			
Instructions: Attempt all questions from Section A (each carrying 2 marks); any Four Questions from Section B (each carrying 5marks). Two from Section C (each carrying 15 marks). Section D is compulsory (30 marks)			
Section A (All Questions are Mandatory)			
1	The time period for which a forecast is prepared is called	[2]	CO 1
2.	The MRP process goes from Sales plan to material ordering using, and	[2]	CO 1
3.	The total time from the time when the need is felt to buy any item till its receipt is called	[2]	CO 1
4.	The period of credit in making payment to a supplier either directly or against a L/C is called	[2]	CO 1
5.	The process of assessing the performance of a supplier is	[2]	CO 1
6.	Procurement by combining the requirement of different items to be ordered from the same supplier is called	[2]	CO 1
7.	Price comparison must be carried out based on	[2]	CO 1
8.	Time series forecasting takes into account,, and	[2]	CO 1
9.	MRP II covers,, and	[2]	CO 1
10.	Safety stock considers and uncertainty.	[2]	CO 1
SECTION B (Attempt any Four Questions) Short Notes			
1.	Inventory analysis	[5]	CO 2

2.	Purchase strategies	[5]	CO 3
3.	Letters of credit	[5]	CO 1
4.	INCOTERMs	[5]	CO 3
5.	BOM	[5]	CO 2
SECTION C (Attempt any 2 questions)			
7.	Discuss the relative merits and demerits of using the P and Q model of ordering Inventory. Please specify the assumptions made in using these models.	15	CO 2,3,5
8.	Critically examine the cycle followed for ordering items of dependent demand. What is the role of different departments in finalizing the production plan?	15	CO2,3,4
9.	Critically examine the various steps required to increase customer service levels without a corresponding increase in stock of raw materials, components and finished goods.	15	CO 2,3
SECTION D			
10.	<p>ABC Ltd. has been facing regular stock out situations in their raw material and component procurement. They appointed a consultant to look into the matter and, after a study, the consultant revised the reorder levels upwards for various items to reduce the chances of stock out. The data given below shows the reorder levels for three items before and recommended ,after the study, by the consultant.</p> <p>Item 1 Average daily demand - 250 units per day, Standard deviation of daily demand – 35 units per day. Lead time – 13 days, Standard deviation of lead time – 1 day. Existing ROL 3250 units, proposed ROL 3900 units.</p> <p>Item 2 Average daily demand – 200 kg. per day, Standard deviation of daily demand – 20 kg. per day. Lead time – 24</p>	[30]	CO 5

days, Standard deviation of lead time – 1.5 days. Existing ROL 4800 Kg., proposed ROL 5500 kg.

Item 3 Average daily demand – 100 units per day, Standard deviation of daily demand – 10 units per day. Lead time – 26 days, Standard deviation of lead time – 2 days. Existing ROL 2600 units, proposed ROL 3050 units.

Please answer the following:

a)What was the mistake made by ABC Ltd. in setting the existing ROLs? (5 marks)

b)What are the chances of a stock out after the ROL is reset, as recommended by the consultant, for each of the 3 items. (15 marks)

c)What could be the possible reasons for the consultant to use different stock out chances for the 3 items? (10 marks)