

INNOVATIONS IN SUPPLY CHAIN

Course Duration: 30 hrs (5 modules)

Name of the Faculty: Prof. Utpal Chattopadhyay, Prof. Mainak Mazumdar, Prof. Koteswar Rao

Introduction:

Every product that we use today is the result of a supply chain - a complex series of steps that turn raw materials into the final products we use. Managing these supply chains has become more and more a challenge, especially with all modern technologies and today's trends. The course is designed to underline the importance of innovation in managing Supply Chain. It is a key activity for both large multi-national companies as well as for small businesses. The course will help participants to understand innovation in supply chains asking questions such as:

- How did global supply chain become what they are today?
- What are the innovations involved in the process of product and services?
- How can current information and communication technology (ICT) make supply chains more efficient?
- Which trends do we need to recognize and cope with?
- How can you implement sustainable supply chain innovations?
- What impact will sensing technologies, such as the use of Radio Frequency Identification RFID, have on the supply chain?
- What are the new technologies applied for managing Supply Chain?

Course Objectives:

Co 1: To understand and analyse the role of innovation in supply chain management.

Co 2: To evaluate the role of new technology in Supply Chain Management.

Target Audience: Junior to Mid-Level Executives

Pedagogy/Teaching Method:

Lectures, Case Studies, and Stimulation in the Class

Relevant Industries:

All High-Tech Industries involved in Innovation like Pharmaceutical, Electronics and communication, Automobile, and others

Session Plan (Each Unit 1.5 Hours):

Sr. No.	Title	Reading Material	Video	Case
<p>Module 1 (7 hrs)</p>	<p>Breakthrough Innovations in Product and Services: Advantages and Disadvantages Breakthrough Innovations in Product and Services: Advantages and Disadvantages Session 1: Who Develops Breakthrough New Products and Services - Users or Manufacturers? Session 2: Systematic Generation of Ideas for “Breakthrough” New Products and Services - the “Lead User Method” Session 3: Finding out What Users Really Need: The “Sticky Information” and “Learning by Doing Problems” Session 4: Systematic Generation of Incremental Improvements to Existing Products and Services Session 5: “Brainstorming” and Creativity Training Techniques and Then Developing Solutions Session 6: Why Users Share Innovations with Each Other and with Manufacturers: Informal Know-How Trading, Collective Invention and Voluntary Revealing Session 7: Community Innovation Resistance to Adopting Radically New Innovations - Even in Firms that “Want To”</p>	<p>von Hippel, Eric. “Overview” and “Users as Innovators.” Chapters 1 and 2 in The Sources of Innovation.</p>	<p>A crash course on supply chain innovation (eft) https://youtu.be/VVu13Qm0vPw</p>	<p>von Hippel, Eric, Stefan Thomke, and Mary Sonnack. “Creating Breakthroughs at 3M.” Harvard Business Review (Sept-Oct 1999): 3-9. Reprint No. 99510.</p>

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<p>Module 2 (6 hrs)</p>	<p>Introduction to Supply Chain Innovations</p> <p>Session 1: Sustainable and global supply chains</p> <p>Session 2: Key processes in a supply chain</p> <p>Session 3: What are drivers for supply chain innovation?</p>	<p>von Hippel, Eric, and Marcie Tyre. "How 'Learning by Doing' is Done: Problem Identification in Novel Process Equipment." Research Policy (Jan 1995): 1-12.</p>	<p>SCM and Innovation at Unilever:</p> <p>https://youtu.be/_wa0NCX-1kA</p>	<p>Easy Flower: Flowers Meet Business and Technology By: Jie Jiao, Ziqian Zhao, Jiulu Zhang, Haipeng Xu</p> <p>https://hbsp.harvard.edu/product/TU0106-PDF-ENG</p>
<p>Module 3 (3 hrs)</p>	<p>Innovations and Sustainability in Supply Chain</p> <p>Session 1: What are innovations in today's supply chains?</p> <p>Session 2: Crisis-driven innovation, self-sufficient production, and data to boost diversity. What is sustainability?</p>	<p>Remapping the Last Mile of the Urban Supply Chain: Role of Data Driven Innovation</p> <p>https://sloanreview.mit.edu/article/remapping-the-last-mile-of-the-urban-supply-chain/</p>	<p>Supply chain innovations at J&J</p> <p>https://youtu.be/RFWUhzcVLCc</p>	<p>Franke, Nik, and Sonali Shah. "How Communities Support Innovative Activities: An Exploration of Assistance and Sharing Among End-Users." Research Policy 32 (2003): 157-178.</p>
<p>Module 4 (4 hrs)</p>	<p>Role of Information Technology in Supply Chain Management</p> <p>Session1: Introduction to ICT in supply chain</p> <p>Session2: History of ICT in the supply chain</p> <p>Session3: Next generation ICT in the supply chain</p> <p>Session4: Current use of ICT in the supply chain</p>			<p>Tetra Pak: A Digitally Enabled Supply Chain as a Competitive Advantage</p> <p>By: Ralf W. Seifert, Richard Markoff 2018</p> <p>https://hbsp.harvard.edu/product/IMD960-PDF-ENG?Ntt=Tetra%20pack%20</p>

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				<p>How Walmart Canada Uses Blockchain to Solve Supply-Chain Challenges by Kate Vitasek, John Bayliss, Loudon Owen, and Neeraj Srivastava January 05, 2022 https://hbr.org/2022/01/how-walmart-canada-uses-blockchain-to-solve-supply-chain-challenges</p>
<p>Module 5 (10 hrs)</p>	<p>Automation and application of sensing technologies in Supply Chain Management Session 1: Digital fabrication technologies Session 2: The Internet of Things Session 3: Automation and Supply Chain Session 4: Communication and sensing technologies Session 5: Positioning</p>		<p>von Hippel, Eric. "Innovation by User Communities: Learning from Open Source Software." MIT Sloan Management Review 42, 4 (Summer 2001): 82-86. Reprint No. 4248. Resistance to Adopting Radically New Innovations - Even in Firms that "Want To" Groopman, Jerome. "Annals of Medicine: The Reeve Effect." The New Yorker, Nov 2003, 82-93.</p>	<p>Logistics of the Future: https://forms.office.com/r/ZaXUW3F2vS</p>

Learning Outcomes:

After going through this course, the participants will be able to:

- Understand different types of breakthrough innovations and their relevance in supply chain management.
- Analyse the role of technological innovations in managing supply chain functions.
- Apply the latest technologies including IOT, automation, sensing technologies, such as RFID etc. to bring in desired improvements in supply chain.