***Supply Chain Management (SCM)***

***Introduction***

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| |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | | **Operations Management**  *“Transformation of Inputs to Outputs”* | | | | | | | |  | Inputs | → | Operations | → | Outputs |  | |  | | | | | | | | |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | | **Supply Chain Management**  *“Management of Systems*  *between Supplier and Customer*  *that Satisfies Customer Demands”* | | | | | | | |  | Supplier | ↔ | Operations | ↔ | Customer |  | |  | | | | | | | |

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| **Objectives of Supply Chain Management** | |
| **Primary Objectives:** | (1) Customer. High Service Levels. *(Meet Customer Demand,*  *Satisfy Customer Order Fulfillment,*  *Increase Customer Satisfaction)*  (2) Operations. Low Cost. *(Products, Processes, Policies)* |
| **Secondary Objective:** | Continually Improve the Quality and Efficiency of Supply Chain Operations |

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| **Supply Chain Management**  *“Management of Systems between Supplier and Customer”*  **---------------Coordination---------------**  SRM = Supplier Relationship Management  OM = Operations Management  CRM = Customer Relationship Management | | | | | | |
|  | Supplier  SRM | ↔ | Operations  OM | ↔ | Customer  CRM |  |
| **-------------------------Integration-------------------------**  Logistics Management  Information Technology Management  Quality Management  Value Chain Management  Risk Management (Resiliency to Shocks) | | | | | | |

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| **Supply Chain Management**  *“The design, implementation, and control of systems that manage the flow of information, material, money, knowledge, and services throughout the supply chain to continually improve quality, lower cost, and increase customer satisfaction.”* |

**Supply Chain Model:**

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| “Management of Systems between Supplier and Customer”  🡨 Flow of Information 🡨   |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | | Supplier | **↔** | Manufacturer | **↔** | Distributor | **↔** | Retailer | **↔** | Customer |   🡪 Flow of Material 🡪  . |

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|  | **Functional Areas:**  \*Supply Management  \*Operations Management  \*Logistics Management  \*Demand Management | | |  | |  |
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|  | 🡪 | **Emerging Drivers:**  \*Coordination & Integration  \*Technology & Analytics  \*Globalization & Security  \*Sustainability & Alliances | | |  |  |
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|  | 🡪 | | **Supply Chain Management**  *“The design, implementation, and control of systems that manage the flow of information, material, money, knowledge, and services throughout the supply chain to continually improve quality, lower cost, and increase customer satisfaction.”* | | |  |
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| ***Types of Supply Chains:***   * *Reverse Supply Chain. Customer to business, returns, recalls.* * *Resilient Supply Chain. Crisis management.* * *Lean Supply Chain. Reduction of waste.* * *Green Supply Chain. Sustainable design and development, TBL.* * *Global Supply Chain. International relationships and strategy.* * *Smart Supply Chain. Technology and optimization.* |

**Supply Chain Management (SCM): Course Perspectives**

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| 🡨 Flow of Information 🡨   |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | | Supplier | 🡪 | Manufacturer | 🡪 | Distributor | 🡪 | Retailer | 🡪 | Customer |   🡪 Flow of Material 🡪 |

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| **Supply Chain Management**  *“The design, implementation, and control of systems that manage the flow of information, material, money, knowledge, and services throughout the supply chain to continually improve quality, lower cost, and increase customer satisfaction.”* |

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|  |  | **Supply Chain Management** |  |  |
|  |  | *Coordination of Service Level & Cost* |  |  |
|  | **Inventory** | **Logistics** | **Relationships** |  |
|  | Echelon Inventory  Forecasting  Risk Pooling | Network Configurations  Transportation  Cross-Docking | Procurement  Outsourcing  Alliances |  |
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|  | **Information** | **Integration** | **Drivers** |  |
|  | Communication  Analysis  Bullwhip Effect | PUSH-PULL Strategies  Standardization  Delayed Differentiation | Technology  Globalization |  |
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|  |  | **Supply Chain Management** |  |  |
|  |  | *Types of Supply Chains* |  |  |
|  | **Reverse**  **Supply Chains** | **Resilient**  **Supply Chain** | **Lean**  **Supply Chain** |  |
|  | Assessment  Implementation  Governance | Prepare  Respond  Improve | Waste  Efficiency  Quality |  |
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|  | **Green**  **Supply Chains** | **Global**  **Supply Chains** | **Smart**  **Supply Chain** |  |
|  | Sustainable Strategy  Sustainable Development  TBL | Drivers  Constraints  Strategies | Technology  Innovation  Disruption |  |
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|  | **SCOR Model: Supply Chain Operations Reference Model** | | |  |
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**Supply Chain Management (SCM): Course Overview**

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| **Supply Chain Management**  *“The design, implementation, and control of systems that manage the flow of information, material, money, knowledge, and services throughout the supply chain to continually improve quality, lower cost, and increase customer satisfaction.”* |

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|  | **Supply Chain Management**  *Coordination of Service Level & Cost* | | | | | |  |
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|  |  |  | *Coordination within Supply Chains* | | | |  |
|  |  |  | SRM  Supplier  Relationship  Management | OM  Operations  Management | Logistics  Management | CRM  Customer  Relationship  Management |  |
|  | *Types of Supply Chains* | Reverse  Supply Chain |  |  |  |  |  |
|  | Resilient  Supply Chain |  |  |  |  |  |
|  | Lean  Supply Chain |  |  |  |  |  |
|  | Green  Supply Chain |  |  |  |  |  |
|  | Global  Supply Chain |  |  |  |  |  |
|  | Smart  Supply Chain |  |  |  |  |  |
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|  |  | **Functions**: Inventory, Logistics, Relationships, Information, Integration | | | | |  |
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|  | **Inventory** | **Logistics** | **Relationships** |  |
|  | Echelon Inventory  Forecasting  Risk Pooling | Network Configurations  Transportation  Cross-Docking | Procurement  Outsourcing  Alliances |  |
|  |  |  |  |  |
|  | **Information** | **Integration** | **SCOR** |  |
|  | Communication  Analysis  Bullwhip Effect | PUSH-PULL Strategies  Standardization  Delayed Differentiation |  |  |
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**Supply Chain Management (SCM): Course Design**

Chapters out of Simchi-Levi Text.

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|  | Topic1.  -Syllabus.  -Introduction. (Video-1)  -Projects Overview  Reverse Supply Chain  Resilient Supply Chain  Lean Supply Chain  Green Supply Chain  Global Supply Chain  Smart Supply Chain  Supply Chain Case Studies | 🡪 | *Homework 1* | 🡪 | *Exam 1* |  |
|  |  |  |  |  |  |  |
|  | Topic 2. Inventory, Logistics, Alliances  -Inventory. Chapter 2 & Demand Risk Pooling & Forecasting  -Logistics. Chapter 7 & Inventory Risk Pooling  -Alliances. Chapter 8 & 3PL,RSP,DI | 🡪 | *Homework 2* | 🡪 | *Exam 2* |  |
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|  | Topic 3. Information  -Information Analysis. Chapter 5 & The Bullwhip Effect  -Information Technology. Chapter 14 & Strategy | 🡪 | *Homework 3* | 🡪 | *Exam 3* |  |
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|  | Topic 4. Strategy  -Network Strategy. Chapter 6 & PUSH-PULL  -Network Design. Chapter 11 & Design for Logistics | 🡪 | *Homework 4* |  |  |  |
|  |  |  |  |  |  |  |
|  | Projects Overview  Reverse Supply Chain  Resilient Supply Chain  Lean Supply Chain  Green Supply Chain  Global Supply Chain  Smart Supply Chain  Supply Chain Case Studies | 🡪 | *Projects* |  |  |  |
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**Supply Chain Management (SCM): References**

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| **Supply Management**  Website: “[www.ism.ws](http://www.ism.ws)” Institute for Supply Management  (Certifications: CPSM, CPM, APP)  Book: Burt, D.N., D.W. Dobler, S.L. Starling, *World Class Supply Management: The Key to Supply Chain Management*, McGraw-Hill/Irwin, New York, 2003. ISBN-13 9780072831566 |
| **Inventory Management**  Website: “[www.apics.org](http://www.apics.org)” The Association for Operations Management.  (Certifications: CSCP, CPIM, CIRM)  Book: Vollmann, T.E., W.L. Berry, D.C. Whybark, F.R. Jacobs, *Manufacturing Planning and Control for Supply Chain Management*, McGraw-Hill/Irwin, New York, 2005. ISBN-13 9780072299908 |
| **Logistics Management**  Website: “[www.cscmp.org](http://www.cscmp.org)” Council of Supply Chain Management Professionals  Book: Bowersox, D.J., D.J. Closs, M.B. Cooper, *Supply Chain Logistics Management*, McGraw-Hill/Irwin, New York, 2007. ISBN-13 9780072947885 |
| **Demand Management**  Greenberg, P., *CRM at the Speed of Light, Third Edition: Essential Customer Strategies for the 21st Century*, McGraw-Hill/Irwin, New York, 2004.  ISBN-13 9780072231731 |

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| ***Other Related Websites***  \*Project Management Institute. Website: “[www.pmi.org](http://www.pmi.org)”  \*American Society for Quality. Website: “[www.asq.org](http://www.asq.org)”  \*Institute for Operations Research and the Management Sciences.  Website: “[www.informs.org](http://www.informs.org)”  \*American Statistical Association. Website: “[www.amstat.org](http://www.amstat.org)”  \*Supply Chain Council, SCOR. Website: “[www.supply-chain.org](http://www.supply-chain.org)”  \*International Association for Six Sigma Certifications.  Website: “<http://www.iassc.org/>”  \*International Association of Outsourcing Professionals.  Website: “<http://www.iaop.org/content/23/193/1268/>” |