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

 ***Introduction***

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| **Operations Management***“Transformation of Inputs to Outputs”* |
|  | Inputs | → | Operations | → | Outputs |  |
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| **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 ManagementOM = Operations ManagementCRM = Customer Relationship Management |
|  | SupplierSRM | ↔ | OperationsOM | ↔ | CustomerCRM |  |
| **-------------------------Integration-------------------------**Logistics ManagementInformation Technology Management Quality ManagementValue Chain ManagementRisk 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 🡨

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

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| 🡨 Flow of Information 🡨

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| 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 InventoryForecastingRisk Pooling | Network ConfigurationsTransportationCross-Docking | ProcurementOutsourcingAlliances |  |
|  |  |  |  |  |
|  | **Information** | **Integration** | **Drivers** |  |
|  | CommunicationAnalysisBullwhip Effect | PUSH-PULL StrategiesStandardizationDelayed Differentiation | TechnologyGlobalization |  |
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|  |  | **Supply Chain Management** |  |  |
|  |  | *Types of Supply Chains* |  |  |
|  | **Reverse** **Supply Chains** | **Resilient****Supply Chain** | **Lean****Supply Chain** |  |
|  | AssessmentImplementationGovernance | PrepareRespondImprove | WasteEfficiencyQuality |  |
|  |  |  |  |  |
|  | **Green** **Supply Chains** | **Global** **Supply Chains** | **Smart****Supply Chain** |  |
|  | Sustainable StrategySustainable DevelopmentTBL | DriversConstraintsStrategies | TechnologyInnovationDisruption |  |
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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* |  |
|  |  |  | SRMSupplierRelationshipManagement | OMOperationsManagement | LogisticsManagement | CRMCustomerRelationshipManagement |  |
|  | *Types of Supply Chains* | ReverseSupply Chain |  |  |  |  |  |
|  | ResilientSupply Chain |  |  |  |  |  |
|  | LeanSupply Chain |  |  |  |  |  |
|  | GreenSupply Chain |  |  |  |  |  |
|  | GlobalSupply Chain |  |  |  |  |  |
|  | SmartSupply Chain |  |  |  |  |  |
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|  |  | **Functions**: Inventory, Logistics, Relationships, Information, Integration |  |
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|  | **Inventory** | **Logistics** | **Relationships** |  |
|  | Echelon InventoryForecastingRisk Pooling | Network ConfigurationsTransportationCross-Docking | ProcurementOutsourcingAlliances |  |
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|  | **Information** | **Integration** | **SCOR** |  |
|  | CommunicationAnalysisBullwhip Effect | PUSH-PULL StrategiesStandardizationDelayed 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 OverviewReverse Supply ChainResilient Supply ChainLean Supply ChainGreen Supply ChainGlobal Supply ChainSmart Supply ChainSupply 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* |  |
|  |  |  |  |  |  |  |
|  | Topic 3. Information-Information Analysis. Chapter 5 & The Bullwhip Effect-Information Technology. Chapter 14 & Strategy | 🡪 | *Homework 3* | 🡪 | *Exam 3* |  |
|  |  |  |  |  |  |  |
|  | Topic 4. Strategy-Network Strategy. Chapter 6 & PUSH-PULL-Network Design. Chapter 11 & Design for Logistics | 🡪 | *Homework 4* |  |  |  |
|  |  |  |  |  |  |  |
|  | Projects OverviewReverse Supply ChainResilient Supply ChainLean Supply ChainGreen Supply ChainGlobal Supply ChainSmart Supply ChainSupply 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 ProfessionalsBook: 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/>”  |