***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.”*  🡨 Flow of Information 🡨   |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | | Supplier | **↔** | Manufacturer | **↔** | Distributor | **↔** | Retailer | **↔** | Customer |   🡪 Flow of Material 🡪 |

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|  | **Supply Chain Model**:  🡨 Flow of Information 🡨   |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | | Supplier | 🡪 | Manufacturer | 🡪 | Distributor | 🡪 | Retailer | 🡪 | Customer |   🡪 Flow of Material 🡪 |  |
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|  | **Supply Chain Management Systems:**   |  |  |  |  |  | | --- | --- | --- | --- | --- | | **Sourcing**  *[Supplier*  *Relationship*  *Management]* | **Production**  *[Operations*  *Management]* | **Storing**  *[Warehouse*  *System*  *Management]* | **Shipping**  *[Logistics*  *Management]* | **Demand**  *[Customer*  *Relationship*  *Management]* |   . . . |  |

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| *Supply Chain Industry:* | | | | | | |  |
|  |  | *Supply Chain Initiatives* | | | | |  |
|  |  | Lean  (Cost,Waste) | Green  (TBL,CSR) | Resilient  (Risk) | Responsive  (Agile) | Smart  (Technology) |  |
| *Key Supply Chains* | Commodity  Supply Chain |  |  |  |  |  |  |
| Global  Supply Chain |  |  |  |  |  |  |
| Service  Supply Chain |  |  |  |  |  |  |
| Reverse  Supply Chain |  |  |  |  |  |  |
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|  | *Functions* | Inventory | Logistics | Relationships | Information | Strategy |  |
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| ***Supply Chain Initiatives*** |
| Lean Supply Chain. An efficient supply chain with a focus on reducing cost by eliminating waste throughout the supply chain. |
| Green Supply Chain. A supply chain with sustainability standards throughout the supply chain based on sustainable strategy, development, and planning. |
| Resilient Supply Chain. A supply chain that mitigates risks through preparation, responding, and recovering from disruptive supply chain events or threats. |
| Responsive/Agile Supply Chain. An agile supply chain that responds to changes in the marketplace through achieving and maintaining target service levels in a timely manner. |
| Smart Supply Chain. A supply chain that capitalizes on the use of technology and analytics. |
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| ***Key Supply Chains*** |
| Commodity Supply Chain. A supply chain that extracts and supplies commodities to satisfy downstream requirements or transforms commodities into other commodities. |
| Global Supply Chain. A supply chain that spans international boundaries. |
| Service Supply Chain. A supply chain that provides services to support a physical supply chain or a supply chain that provides services to meet external customer demand for services. |
| Reverse Supply Chain. A supply chain where physical goods travel upstream. |

**Supply Chain Model:**

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

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| **Supply Chain Industry:** | | | | | | |  |
|  |  | *Supply Chain Initiatives* | | | | |  |
|  |  | Lean  Supply Chains  (Cost,Waste) | Green  Supply Chains  (TBL,CSR) | Resilient  Supply Chains  (Risk) | Responsive  Supply Chains  (Agile) | Smart  Supply Chains  (Technology) |  |
| *Key Supply Chains* | Commodity  Supply Chains |  |  |  |  |  |  |
| Global  Supply Chains |  |  |  |  |  |  |
| Service  Supply Chains |  |  |  |  |  |  |
| Reverse  Supply Chains |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  | *Functions* | Inventory | Logistics | Relationships | Information | Strategy |  |
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|  | **Supply Chain Initiatives** | | | | | | | |  |
|  | **Lean** | **Green** | | **Resilient** | | **Responsive** | | **Smart** |  |
|  | Waste  Efficiency  Quality | Strategy  Development  Planning | | Prepare  Respond  Improve | | Speed  Flexibility  Adaptability | | Technology  Innovation  Disruption |  |
|  | .   |  |  |  |  | | --- | --- | --- | --- | | **Key Supply Chains** | | | | | **Commodity** | **Global** | **Service** | **Reverse** | | Agriculture  Metals  Energy | Drivers  Constraints  Strategies | Intra-Service  Inter-Service | Assessment  Implementation  Governance |   . | | | | | | | |  |
|  | **Functions:** | | | | | | | |  |
|  | **Inventory** | | **Logistics** | **Relationships** | **Information** | | **Strategy** | |  |
|  | Echelon Inventory  Forecasting  Risk Pooling | | Configurations  Transportation  Cross-Docking | Procurement  Outsourcing  Alliances | Communication  Analysis  Bullwhip Effect | | PUSH-PULL  Standardization  Postponement | |  |
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|  | **SCOR Model: Supply Chain Operations Reference Model** | | | | | | | |  |
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**Supply Chain Management (SCM): References**

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| **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/>” |