***Introduction to SCOR***

***SCOR: Supply Chain Operations Reference Model***

 Organized in 1996, the Supply-Chain Council (SCC) was formed to develop, maintain, and improve a supply chain reference model, SCOR. In 2014, SCC merged with APICS to form the APICS Supply Chain Council (APICS SCC).

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| **The Supply Chain Operations Reference model (SCOR)** is the world’s leading supply chain framework, linking business processes, performance metrics, practices and people skills into a unified structure. |

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|  | **Approach of SCOR** |  |
|  |  |  | **Integrated Disciplines** |  | **Cross-Functional****Framework** |  |
|  | **Value****Propositions** | 🡪 | Business Process Re-Engineering | 🡺 | **SCOR** |  |
|  | 🡪 | Benchmarking |  |
|  | 🡪 | Best Practices Analysis |  |
|  | 🡪 | Process Reference Model |  |
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|  | **Supply Chain Operations Reference Model** |  |

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| **SCOR Structure** |  |
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|  | **Performance**. Standard metrics to describe process performance and define strategic goals. |  |
|  |  | Attributes and Metrics for Reliability, Responsiveness, Agility, Costs, Assets |  |
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|  | **Processes**. Standard descriptions of management processes and process relationships. |  |
|  |  | Level 1. Process Types (Scope)Level 2. Process Categories (Configuration)Level 3. Process Elements (Steps)(Level4.) Activities (Implementation) |  |
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|  | **Practices**. Management practices that produce significant better process performance. |  |
|  |  | Emerging, Best, Standard, Declining |  |
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|  | **People**. Standard definitions for skills required to perform supply chain processes. |  |
|  |  | Novice, Beginner, Competent, Proficient, Expert |  |
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| Source: SCOR: Supply Chain Operations Reference Model, Revision 11.0, released December 2012. |

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|  | **SCOR Processes** |  |

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| **Level 1 Processes in SCOR**Plan, Source, Make, Deliver, Return, Enable |

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| **SCOR Framework of Integrated Processes** |
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|  | 🡨 Supply Chain Operations Reference Model 🡪 |  |
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|  | **Major Processes** |  |
|  | **Plan** | The Plan processes describe the activities associated with developing plans to operate the supply chain. |  |
|  | **Source** | The Source processes describe the ordering (or scheduling of deliveries) and receipt of goods and services. |  |
|  | **Make** | The Make processes describe the activities associated with the conversion of materials or creation of the content for services. |  |
|  | **Deliver** | The Deliver processes describe the activities associated with the creation, maintenance and fulfillment of customer orders. |  |
|  | **Return** | The Return processes describe the activities associated with the reverse flow of goods. |  |
|  | **Enable** | The Enable processes describe the activities associated with the management of the supply chain. |  |
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| **Levels of Process Detail** |
|  |  |  | Description | Examples |  |
|  |  | Level 1. | Process Types (Scope) | Plan,Source,Make,Deliver,Return,Enable |  |
|  |  | Level 2. | Process Categories (Configuration) | Make-to-Stock, Make-to-Order,Engineer-to-Order |  |
|  |  | Level 3. | Process Elements (Steps) | Schedule Deliveries, Receive Product, Verify Product, Authorize Payment |  |
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|  |  | Level 4. | Activities (Implementation) | Out of the general scope of SCOR.Specific to type of supply chain. |  |
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|  | **SCOR Performance** |  |

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| **Performance**. Standard metrics to describe process performance and define strategic goals.Attributes and Metrics for Reliability, Responsiveness, Agility, Costs, Assets |

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|  | **Performance Attribute.** A performance attribute is a grouping or categorization of metrics used to express a specific strategy. |  |
|  | **Metric.** A metric is a standard for measurement of the performance of a supply chain or process |  |
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|  | **Performance Attributes** | **Level-1 Metrics** |
| Customer | Reliability | The Reliability attribute addresses the ability to perform tasks as required. | Perfect Order Fulfillment |
| Responsiveness | The Responsiveness attribute describes the speed at which tasks are performed. | Order Fulfillment Cycle Time |
| Agility | The Agility attribute describes the ability to respond to external influences; the ability to and speed of change. | Upside Flexibility, Upside AdaptabilityDownside Adaptability, Overall Value-at-Risk |
| Internal | Costs | The Cost attribute describes the cost of operating the process. | Total Cost to Serve |
| Assets | The Asset Management Efficiency (‘Assets’) attribute describes the ability to efficiently utilize assets. Asset management strategies in supply chain include inventory reduction and in-source vs. outsource. | Cash-to-Cash Cycle TimeReturn on Fixed AssetsReturn on Working Capital |

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|  | **SCOR Practices** |  |

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| **Practices**. Management practices that produce significant better process performance.Emerging, Best, Standard, Declining |

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|  | **Emerging** | Emerging practices introduce new technology, knowledge or radically different ways of organizingprocesses. |  |
|  | **Best** | Best practices are 'current', 'structured' and 'repeatable' practices that have had a proven andpositive impact on supply chain performance• Current: Not emerging, not outmoded.• Structured: Feature a clearly stated goal, scope, process, and procedure.• Proven: Demonstrated in a working environment, and linked to key metrics.• Repeatable: Proven in multiple organizations and industries. |  |
|  | **Standard** | Standard practices are how a wide range of companies have historically done business by default or happenstance. |  |
|  | **Declining** | Declining practices represent ways of doing business, which can be widespread, that have proven to result in poor supply chain performance as indicated by key metrics. |  |
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|  | **Practices** |  |  |
|  |  | ***Risks*** |  |
|  |  |  | High | Moderate | Low | High |  |
|  | ***Results*** | High | **Emerging** |  |  |  |  |
|  | Moderate |  | **Best** |  |  |  |
|  | Low |  |  | **Standard** |  |  |
|  | Negative |  |  |  | **Declining** |  |
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|  | **SCOR People** |  |

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|  | **Key Elements** |  |
|  | **Skill** | Skill is the capacity to deliver pre-determined results with minimal input of time and energy. |  |
|  | **Experience** | Experience is the knowledge or ability acquired by observation or active participation. |  |
|  | **Aptitude** | Aptitude is a natural, acquired, learned or developed ability to perform a certain kind of work at a certain level. |  |
|  | **Training** | Training develops a skill or type of behavior through instruction |  |
|  | **Competency** | Competency Level describes the level or state of qualification to perform a certain role or tasks. SCOR recognizes 5 commonly accepted competency levels. |  |
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|  | **Competency Levels** |  |
|  | **Novice** | Untrained beginner, no experience, requires and follows detailed documentation to be able to perform the work. |  |
|  | **Beginner** | Performs the work, with limited situational perception. |  |
|  | **Competent** | Understands the work and can determine priorities to reach goals. |  |
|  | **Proficient** | Oversees all aspects of the work and can prioritize based on situational aspects. |  |
|  | **Expert** | Intuitive understanding. Experts can apply experience patterns to new situations. |  |
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|  | **SCOR Example** |  |

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| Book reference for a HOW-TO approach to SCOR in a fictitious company:*Supply Chain Excellence. A Handbook for Dramatic Improvement Using the SCOR Model*, Third Edition, 2012, P. Bolstorff, R. Rosembaum, AMACOM, ISBN:9780814417713. |

**Essential Success Factors.**

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| **Change Management** | **Problem-solving Techniques** | **Project Management** | **Business Process Engineering Techniques** |

**Phases of Implementation Approach.**

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|  | **Build Organizational Support.** |  |
|  | **Define Project Scope.** |  |
|  | **Analyze Performance.** |  |
|  | **Develop Project Portfolio** |  |
|  | **Implement Projects.** |  |
|  | **---Extend to the Greater Value Chain---** |  |
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**SCOR Project Roadmap**

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|  |  | **Segments** | *Analyze**Basis of Competition* | 🡪 | OperationsStrategy |  |  |  |  |  |
|  |  | *Configure**Supply Chain* |  | 🡪 | MaterialFlow |  |  |  |  |
|  |  | *Align Performance Levels, Practices, and Systems* |  |  | 🡪 | Information & Work Flow |  |  |  |
|  |  | *Implement* *Supply-Chain Changes* |  |  |  | 🡪 | Implementation |  |  |
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| **Operations Strategy*** Supply Chain Scope
* Performance Metrics
* Supply Chain SCORcard
* Competitive Performance Requirements
* SCORcard Gap Analysis
 | **Information and Work Flow*** AS IS Work/Information Map
* Transactional Productivity Analysis
* TO BE Work/Information Map
* Prioritized List of Changes
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| **Material Flow*** AS IS Material Flow
* Disconnect & Gross Opportunity Analysis
* Supply Chain Strategy and Best Practice Analysis
* TO BE Material Flow
 | **Implementation*** Master Schedule of Projects
* ROI Analysis
* Technology Selection
* Detail Requirements, Solution Design, Configuration, Test & Go Live
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| Find a presentation of SCOR application by Peter Bolstorff on the YouTube below: |
| APICS Webinar: SCOR 101-APICS for BusinessPeter Bolstorff[ <https://youtu.be/58SJY2P42PE> ] |