***Commodity Supply Chain Management***

**What is a Commodity?**

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| A basic raw material interchangeable with other raw materials of the same type.  A commodity is indistinguishable (fungible) from other commodities of the same type.  A commodity is commonly used in the production of other goods and/or services.  A commodity has little differentiation between producers or suppliers due to standardization of quality. |

**What is a Supply Chain?**

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

**What is a Commodity Supply Chain?**

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| “Management of Systems of interchangeable basic goods between Supplier and Customer”  🡨 Flow of Information 🡨   |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | | Raw  Material | **↔** | Components | **↔** | Finished  Products | **↔** | Transportation | **↔** | Consumption |   🡪 Flow of Material 🡪 |

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| **What is a Commodity?** | |
| A raw material or primary good bought and sold. | |
| Interchangeability (Fungibility) | Basic good often used as input to products. |
| Undifferentiation (Price) | Commodity vs. Product (differentiated by value-added) |
| Pure Competition | Commodity vs. Resource (e.g., human rights to water) |

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| **What are types of investment commodities?** | | |
| Tradable or investment commodities: | Examples | |
| Metals | Copper, Gold, Silver, etc. | |
| Energy | Natural gas, Petroleum, Coal, Renewables, etc.  [Industry, Transportation, Residential, Commercial, Electric Power] | |
| Agriculture | Corn, Cotton, Soybean, Wheat, etc. | |
| Livestock & Meat | Cattle, Poultry, Hogs, etc. | |
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| *Foreign currencies, Bandwidth, Mortgages, Staple Products, Services, etc.*  *Water, Health Care, Public Service, etc. (Commodity vs. Natural Resource vs. Human Right)* | | |

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| **What is a Commodity Supply Chain?** | |
| Series of systems  that acquire, produce, and provide commodities to customers. | |
| Characteristics | Interconnected (Systems) |
| Low Cost (Profit) |
| High Service Level (Competition) |

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| **What is Commoditization?** |
| When a basic or primary good becomes  interchangeable,  undifferentiated, and  driven by pure competition. |
| (i.e., Equalizing the contribution between  Price, Availability, Quality, Utility, etc.) |

**What are the characteristics within a commodity supply chain?**

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| Metals |  | Copper, Gold, Silver, etc. |
| Energy |  | Natural gas, Petroleum, Coal, Renewables, etc. |
| Agriculture |  | Corn, Cotton, Soybean, Wheat, etc. |
| Livestock & Meat |  | Cattle, Poultry, Hogs, etc. |

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| **Stages of a Supply Chain** | | | | | | |
| 🡨 Flow of Information 🡨   |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | | Sourcing | **↔** | Production | **↔** | Storing | **↔** | Shipping | **↔** | Demand |   🡪 Flow of Material 🡪 | | | | | | |
| .   |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | |  |  | | | | |  | |  | Sourcing [SRM, Supplier Relationship Management] | | | | |  | |  |  | Production [OM, Operations Management] | | | |  | |  |  |  | Storing [WMS, Warehouse Management System] | | |  | |  |  |  |  | Shipping [TMS, Transportation Management System] | |  | |  |  |  |  |  | Demand [CRM, Customer Relationship Management] |  | |  |  |  |  |  |  |  |   . | | | | | | |
| ***Supply Chain Stages*** | | | | | | | | |
|  |  | *Supply Chain Characteristics* | | | | | |  |
|  | **(Metals)**  **(Energy)**  **(Agriculture)** | Lean  (Cost,Waste) | Green  (TBL,CSR) | Resilient  (Risk) | Responsive  (Agile) | Smart  (Technology) | |  |
| *Supply Chain Stages* | Sourcing  *[SRM]* |  |  |  |  |  | |  |
| Production  *[OM]* |  |  |  |  |  | |  |
| Storing  *[WMS]* |  |  |  |  |  | |  |
| Shipping  *[TMS]* |  |  |  |  |  | |  |
| Demand  *[CRM]* |  |  |  |  |  | |  |
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|  | *Functions* | Inventory – Logistics – Relationships – Information – Strategy | | | | | |  |
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|  | *Drivers* | Analytics – Globalization – Sustainability | | | | | |  |
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