

Next Generation Supply Chain

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Today's Supply Chains require Collaboration

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From Vertical Integration to Focus on Core Competencies



Reason: Cost Reduction Globalization From fixed to variable Complexity of Technologies



Implications:

- Lack of Visibility increases cost
- Sub-optimized Supply Chain
- Less Responsive
- Lower Customer Satisfaction



Customer Expectations:

- Faster Delivery
- More Choice
- Reduced Price



Trouble comes from the edges

- Small turbulences early in the supply chain:
 - Are typically notices very late
 - Disrupt the whole system, amplifying their effect as they travel through the supply chain
 - Are very costly
 - Generate a lot of dissatisfaction
- Potential risks go un-noticed due to reduced understanding of the edges of the supply chain



Coordination beyond traditional Supply Chain...





Companies focus has typically been on the optimization of their own supply chain, reducing costs of sourcing products from their suppliers.

To continue improve performance, companies need to turn their focus to the end-toend supply chain, reviewing how to take costs out of that supply chain

And companies should review how the design of their products and packaging directly influences the cost of their supply chain





Source: Collaborative Sourcing, Philippart, Verstraete, Wynen, PUL © 2006, Hewlett-Packard Development Company, LP

HP's Supply Chain

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HP's current Ecosystem





Supply Chain Strategy Overview





Supply Chain Capabilities Overview

Procurement

Manages process of optimizing overall product material costs, assurance of supply & quality compliance

Manufacturing

Leverages extended enterprise partners and HP internal resources to deliver high value products

Logistics

Fulfills customer delivery expectations; transit time, availability, visibility & predictability

Planning

Manages process of ensuring product availability aligns with customer demand

Order Fulfillment

Co-ordinates process of fulfilling orders in readiness for delivery to customer

Supply Chain IT

Provides supporting infrastructure; connectivity, data integrity, security & collaboration



Operational Effectiveness & Efficiency

Standardization & Simplification

- Relentless improvement of the Supply Chain cost structure
- Ensure leverage size & scale
- Optimize company working capital

Metrics:

- % of process commonality
- IT spend as % of revenue



Cost Efficiency

- Drive common processes
- Rationalize IT infrastructure **Metrics:**
- Direct materials savings
- SC Cost as % of Revenue
- Cash Management (DPO & DOI)

Customer Value

- Improve product & service delivery
- Provide end-to-end visibility & availability information

Metrics

- Order delivery performance
- Sales order turn around time
- Product availability

Manufacturing: Partnering for success







Procurement Risk Management

Solution for managing supply, demand & pricing volatility

Value

- Protects margin, earnings & supply from price & supply volatility
- Optimizes predictable, reliable, pricing
- Enables assurance of supply by minimizing inventory overstock

Capabilities

- Facilitates measurement & management of uncertainty
- Enables reallocation of risk between HP and its suppliers to maximize results
- Provides method to evaluate contract alternatives (e.g. fixed qty and/or price vs. spot)



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Buy/Sell

Solution that enables HP to maintain control of component purchasing in a fully outsourced supplier environment

Value

- Lowers material spend/cost
- Improves cash flow advantage for HP
- Reduces inventory via inventory pooling in 3rd party hubs; managed by HP

Capabilities

- Enables effective cost mgmt., to achieve sustained best material cost
 - Price masking for strategic commodities
 - Adherence to contractual agreements,
 - Manages price volatility
 - Enables proper procurement spend aggregation & visibility
- Enables best required assurance-of-supply
 - Supports PRM
 - Effective supply management



Development Company, LP



Design for Supply Chain

Process that systematically trades off; responsiveness, material, & supply chain costs to maximize profitability

Value

- Reduces supply chain costs
- Improves time to market
- Reduces design effort
- Creates shorter order cycle times & manufacturing ramp
- Reduces material cost

Capabilities

- Enables rationalization of product portfolios
- Provides packaging optimization
- Supports Supply chain cost modeling of alternative product designs
- Delivers analytic processes to determine optimum part commonality & reuse

Examples





- Design for.....
 - Variety Control
 - Logistics Enhancement
 - Commonality and Reuse
 - Postponement
 - Take Back Facilitation



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Our Experience is in our Offering

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Next Generation Supply Chain



Business challenges helped by Product Lifecycle Management



- Faster product introductions required to beat competition
- Disparate business processes
- Evolving demands due to outsourcing, externalization and acquisitions
- Proliferation of industry standards and compliance
- Definition of PLM is evolving quickly



HP Product Lifecycle Management solutions



Proven results: World-class high tech manufacturing facilities

Performance leadership: Global business practitioner of product lifecycle management strategies and solutions

Complete, integrated solutions: Comprehensive set of end-to end solutions, technology and services

- Address inusdtry-specific business issues Create rapid benefits from establishing common product information processes within an organization's distributed design and supply chains

Continual improvement for maximum ROI:

- Processes designed for re-use across the enterprise
- Reduced duplication of applications, data, and technology





Business challenges helped by Supply Chain Management



- Speed-up response to changing market demand to beat competition
- Disparate business processes
- Evolving demands due to outsourcing, externalization and acquisitions
- Proliferation of industry standards and compliance



Build on a common Architecture Integrated SAP & HP's reference architectures



SAP Enterprise Services Architecture (ESA)

HP Reference Architecture for the Adaptive Enterprise





SAP solutions

HP, your SAP Partner

- Implement
- Integrate
- Optimize
- Consolidate
- Migrate/Upgrade
- Manage
- Outsource
- Train
- Support



Business challenges helped by Demand Management



- Balance Supply and Demand
- Manage disparate distribution channels
- Spot trends and issues early
- Initiate Engineering Changes quickly to avoid unnecessary costs
- Disparate business processes



Warranty Management A cost burden for many companies

- As per the industry reports, the warranty costs are increasing year over year. This spend is primarily accounted in the form of Warranty reserve and cost recovery.
- In addition to direct cost, manufacturers suffer from attrition in brand loyalty, market share and customer satisfaction.
- OEMs are recognizing the need for quick and efficient discovery and ability to react to quality issues and customer concerns.





Objective Implement Closed Loop Early Warning Solution

- •Automates the process of discovering new opportunities or identifying previously unknown issues. Combined with root cause analysis and improved process, customers will be able to address key quality issues for faster resolution and reduce reaction
- •Gathers foundational information from various sources and providing visibility to Manufacturing Data, Quality Trends, Field Spills, Correction Cycles etc.
- Provides Tool and methodology to deliver reporting and workflow requirements.

Warranty Strategy Development & Dynamic Modeling



time.

Reference Data Manage structured & unstructured reference data



Regulatory Management

- Corporate and government regulations require retention policies (eg. RoHS, WEEE, SoX)
- Companies placed under subpoena to produce email and documents in legal actions taken against the company



Data Management

- Information growth continues at an accelerated rate
- Need to significantly reduce management costs while maintaining servicelevels
- Increase performance on file servers
- Reduce back up time



Reference Information <u>Management</u>

- Reference information (static content) is underutilized and the ability to tap into it has potential business value
- When you need it, reference information is of great value



Visibility, the Foundation

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Managing the Supply Chain requires: Business Visibility



Provide the information needed to run the supply chain as an integrated business, fixing problems in "real-time" and improving the performance of the end-to-end supply chain.

Make the enterprise:

- More Resilient
- More Agile
- More Responsive
- A better company to do business with



What is required to do achieve Visibility?



Collaborative Business Infrastructure

Provides a secure integration capability with back-end systems, partners and public data sources. Takes care of the data transformation aspects and the collaborative business processes **Event Management**

Operational Data Store

Structures and maintain the "real-time" data used for event management, alarming and real-time reporting

Analysis & Reporting

Business Warehouse

Aggregates, structures and maintain the "historical" data allowing time based reporting and trend analysis



Supply Chain – Maturity Model





Business Visibility – Dashboard



Production, Sales and Inventory (PSI) Plan-Do-Check-Act (PDCA)



Where do you start?

Collaboration

- Forecasts
- Inventory
- Purchase Order
- Design

Events

- Inventory
- Early Warning
- Order
- Operations
- KPI's

Analytics

- Inventory
- Costs
- Warranty
- Lean
- Risk
- KPI's

	Event Management	Analysis & Reporting
Collaborative Business Infrastructure	Operational Data store	Business Warehouse



Functional Architecture





Supply Chain Visibility – Dashboards





Supply Chain Dashboard provides single window to view and access operational information and performance data based on roles and security

Supply Chain Visibility – Projected Inventory Visibility



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Provides visibility to the inventory status for all the suppliers associated to the components and consuming location.

- Displays potential stock out or pileup of inventory position
- Allows for simulation of supplier commits and enables appropriate allocations

Supply Chain Visibility – Sample screen shots of simulation



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Supplier communication

March 28, 2006



Warranty Management - Analysis

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Conclusion

50 Million Printers, 30 Million PC's, 2 Million Industry Standard Servers, 300+ Million Inkjet Cartridges

700 Suppliers, 32 plants, 88 distribution centers, 119 logistics providers, 1 Billion Customers, 168 countries



HP, your partner for building the Next Generation Supply Chain

You want to know more:

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