

The Extended Supply Chain and the New Economy

ANTEC May 9, 2006

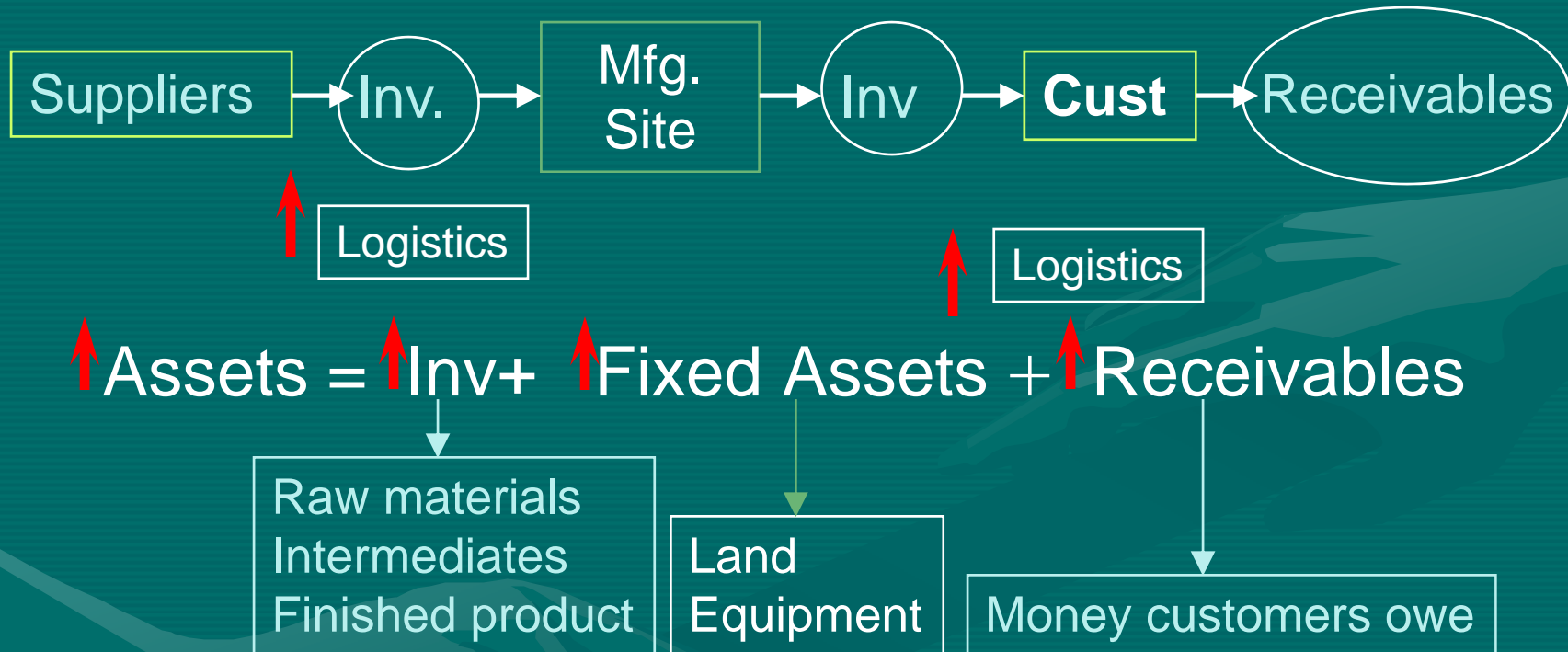
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What is Supply Chain Management?

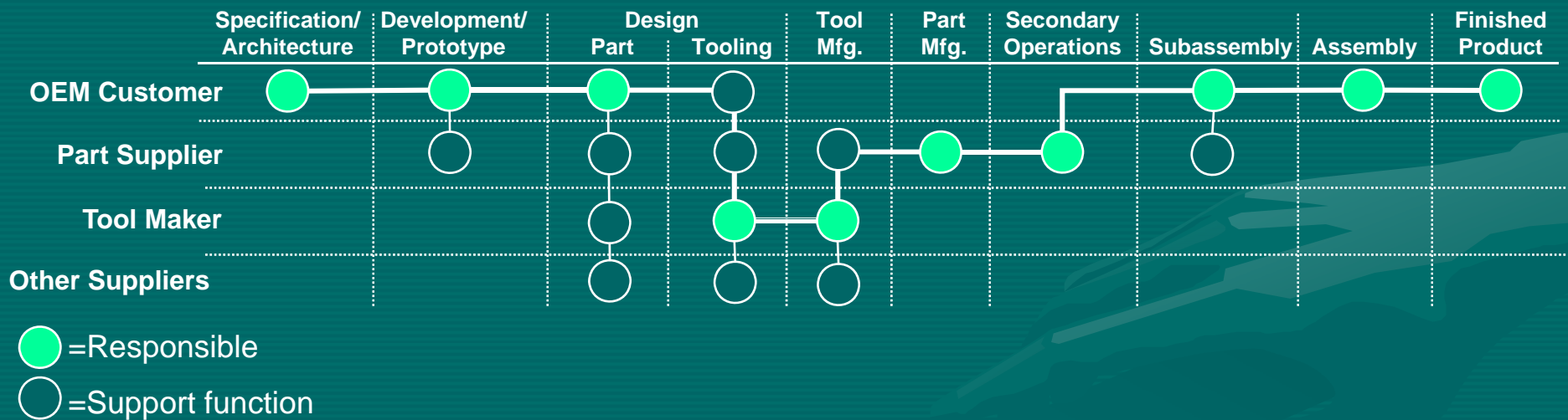
- Integrated approach for planning and controlling flow of materials through the distribution system

Supply Chain-Our Definition



Classic “Build to Print” Delivery Process

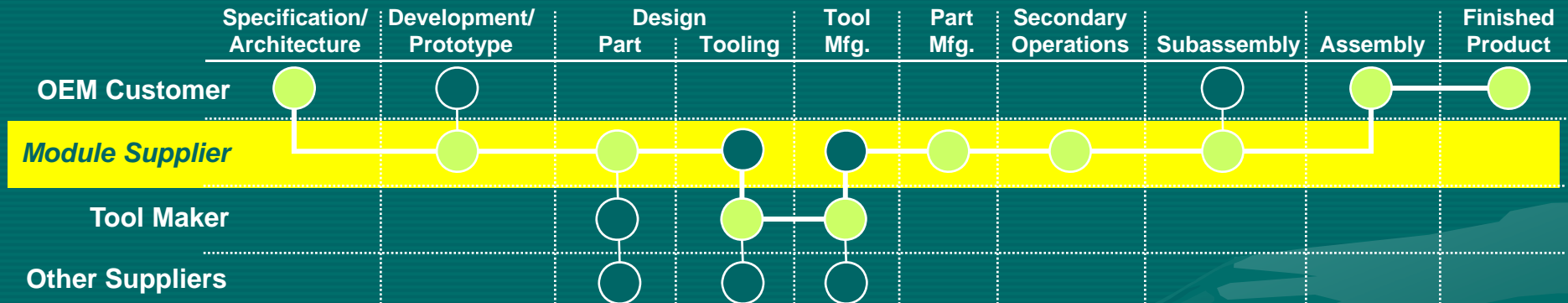
Typical product delivery process



- The farther right, the more value is added to the part or assembly.
- OEM customer maintain control over architecture/specification, part design and assembly (“build to print” model).
- “Hand-offs” between suppliers create opportunities for loss of productivity (efficiency and effectiveness).
- Many people owning small pieces of the value chain..owned by all and no one.
- At times, OEMs lack all the critical skills to cost effectively deliver.

Extended Enterprise Delivery Process

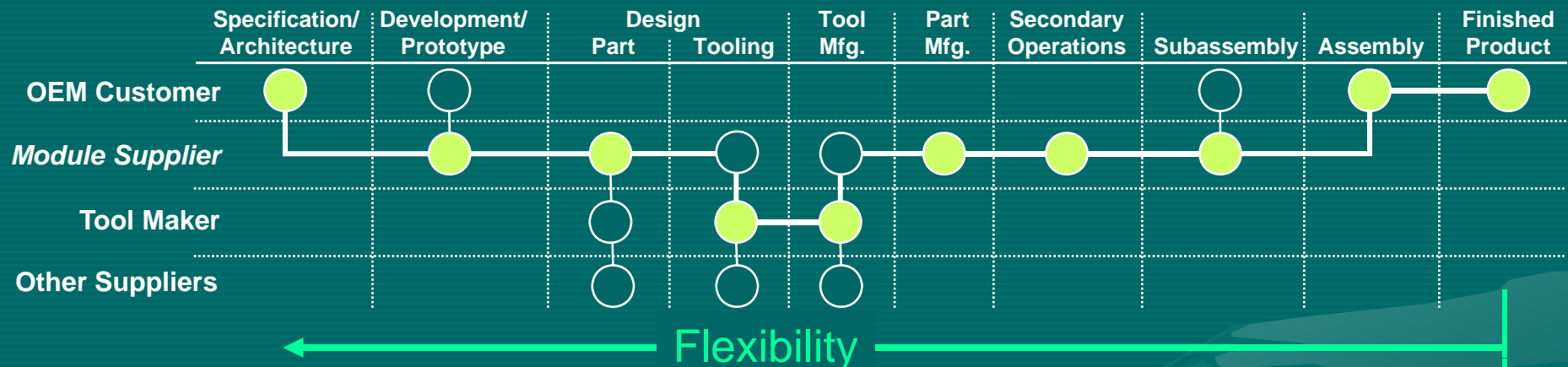
Extended Enterprise Environment



Shift of responsibility from OEM to a qualified “module supplier”

- “Molder” has prototyping capability, design competency and assembly operations
- Integration backward and forward in value chain
- Responsibility stays with one group longer through value chain
- Hand-offs are minimized, therefore less opportunity to fail.
- Assuming same or lower price at end, the “profits” or “margins” are distributed back along the value chain to those who add value from parts to assemblies.
- Example show faster overall delivery at lower “total acquisition cost”

Flexibility of the Supply/Value Chain



How fast the value chain can react to changes from consumer

- Must be able to react to OEM's customer environment with goal that the cost of change is zero
- "Lean" principles¹
 - Value: only defined by customer; specific product, need, price and time
 - Value Stream: identify value added, eliminate waste in / between each step
 - Flow: remove impediments/barriers to continuous material flow
 - Pull: "pull" products through value chain; what, when and how they want it
 - Perfection: continuous radical and incremental improvements
- Strive for shortest pipeline; the more uncertainty in predicting product demand, the shorter the pipeline needs to be.
- Requires efficient and effective communication along value chain

Virtually Untapped Potential

- Opportunity for cost efficiencies and revenue growth
 - Only a few companies have really taken advantage of this concept
- Source of potentially new business models

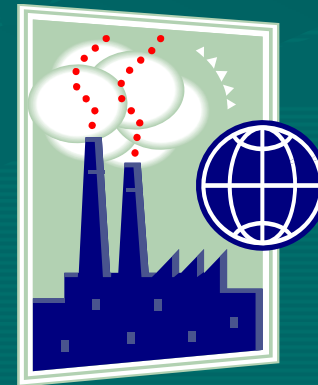
Thinking/Analysis Required

- Supply Chain analysis requires the need to evaluate relationships
- Re-evaluate current business model



Why the need to reevaluate relationships?

- Competitive realities
- Globalization of markets
- Rising cost of business



Keys to Supply Chain Improvements

- Recognize need for cross-functional and inter-enterprise interdependence
- Software is the catalyst for collaboration- not the glue
- Need for upstream and downstream collaborating – from raw materials to end-use consumption
- *Primary goal is to leverage skill/capabilities and achieve sustainable competitive advantage*

How to begin process

- Must flow from firm's strategic plan
 - The strategic plan translates senior managements' view of future into a reality
- Organization must understand its role in the supply chain
- When transformed, supply chains could resemble virtual corporations, boundaries blur and partner firms strive to bring value to marketplace.

Influence of Trends on Supply Chain Definition

- Understand how all the pieces fit in providing value to customers- value stream mapping.
- Leveraging the supply base and building on skills and competencies becomes more important
- Outsourcing grows as firms concentrate on what they do well.
- Supply chain wide information sharing and planning
- Performance metrics need to reflect the contribution of suppliers to corporate goals and objectives

Customer Strategy--Influence

- A firm needs to understand its customer segmentation
 - What types of customers do you have?
 - What role do you play in their supply/value chain?

Matching Supply Chains with Products

	Functional Products	Innovative Products
Efficient Supply Chain	Match	Mismatch
Responsive Supply Chain	Mismatch	Match

Process results

- When transformation, supply chains could resemble virtual corporations
- Boundaries blur and partner firms strive to bring value to marketplace.

Evolution of the Supply Chain

- Concept of extended enterprise
- To get a more integrated supply chain
 - need both technological capability
 - level of trust necessary for this type of close relationship

Let's look at the history of supply chain management

Evolution of Management of Extend Enterprise



Supply Chain/Scheduling Methodologies



EOQ/ROP	Economic Order Quantity and Re-Order Point
MRP	Material Requirements Planning /Manufacturing Resource Planning
DRP	Distribution Requirement Planning
JIT	Just in Time
QR	Quick Response
VMI	Vendor- Managed Inventory
MES	Manufacturing Execution Systems
APS	Advanced Planning Systems
CDFR	Collaborative Planning Forecasting and Replenishment

Extended Supply Chain & the Future

- Company culture that de-emphasizes short-term company specific gains in favor of a network of supply chain partners
- Greater information sharing, developing trust and encouraging personal relations.
- Integrating suppliers with leading-edge practices

Current Situation

- Only a handful of companies have been able to approach the seamless extended enterprise
 - working together to meet end-user requirements.
- Information technology challenge but more of a broad-based process and management challenge
- Most supply chains still contain unnecessary wastes and inefficient practices

Hewlett Packard

- Computer monitors
 - an electronic contract manufacturer (ECM) buys the case for the monitor from an injection molder who acquires the material for the case from a plastics compounder who in turn buys the compound material from a resin maker.
- Hewlett Packard made sure that all the parties would work together, share information and operate in a way that guarantees the lowest costs and highest levels of product availability throughout the chain.
- HP set up a computer system to share information among all the participants and posted its demand forecasts and revisions for the first tier partners to use in their own forecasting. The partners also began to post their plans and schedules and to use the system to communicate with their own suppliers and customers.
- HP's procurement staff manages the entire process

How to make it work

- Technology alone does not insure the right information is shared across companies
- Workflow related information needed to make process work
- Companies in supply chain must be willing to share company-specific knowledge and expertise

How to make it work-Tools

- Microsoft partners have cost-effective tools to help smaller enterprise or business unit
 - Lean manufacturing- Process-mapping
 - Automated manufacturing
 - Communication enabling tools

Conclusion

Making effort to develop strategy for extended enterprise will insure company of future growth and profitability

- Win-win thinking results in a supply chain that successfully competes on a global scale
 - That is the goal of extended enterprise
- Software is a tool to assist the strategic implementation of the extended supply chain

Thanks for your attention!

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