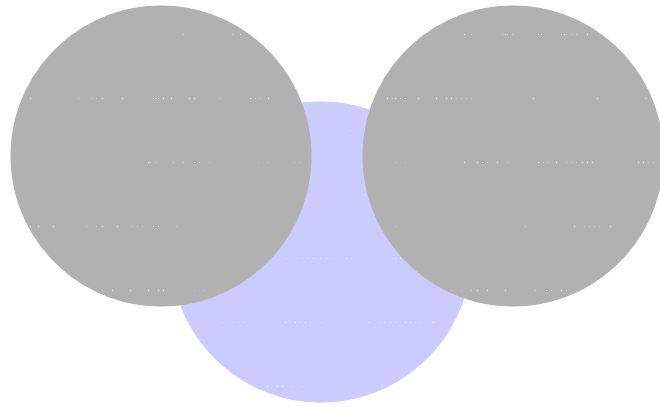


# MID-HUDSON APICS CHAPTERS

Wednesday Dinner Presentation

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# **Marry Lean Thinking and the Supply Chain**

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# Segments

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- **1. Lean thinking**
- **2. Supply chain management**
- **3. Making a match**

# The Buzz

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- **Strategic sourcing**
- **Global sourcing**
- **Supply chain management**
- **Integrated supply relationships**
- **E-commerce/e-procurement**
- **Lean Thinking**
- **Six Sigma**

# Our Future

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## **Organizational Structure**

- **Flatter management**
- **Fragmentation of functional expertise**
- **Verticalization of supply chains**
- **Membership in disparate supply chains and key business processes**
- **Cross-functional team and project orientation**

# Our Future

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## **Policies, Practices, And Procedures**

- **Performance measurement and appraisal**
- **Managing teams in parallel**
- **Strategic focus**
- **Key supplier strategic alliances**
- **Supply chain integration**
- **Market/customer focus**
- **Strategic cost management**
- **Greater internal integration across the value chain**
- **Value maximization**
- **Time-based principles**

# **The Organization-Wide Move To Lean Thinking**

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- **Greater manufacturing flexibility**
  - **Increasing technological intensity of products**
  - **High degree of customization**
  - **Focus on customer preferences**
  - **Globalization of markets**
  - **Quick response and time-based competition**

# Muda = Waste

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- **Any human activity which absorbs resources but creates no value**
- **Lean thinking is an antidote to waste**
  - **Inventory**
  - **Movement**
  - **Process**
  - **Transportation**
  - **Set-up**
  - **Over-production**

# Basic Principles of Lean

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- **A conscious attempt to precisely define value in terms of specific products with specific capabilities offered at specific prices through a dialogue with specific customers**

# Lean Thinking

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- **Specify value**
- **Line-up value-creating actions in the best sequence**
- **Conduct these activities without interruption whenever someone requests them**
- **Perform them more and more effectively**

# Lean Thinking

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- **Lean**
  - **A way to do more and more with less and less**
    - **Human efforts**
    - **Less equipment**
    - **Less time**
    - **Less space**
  - **Yet come closer to what the customer wants**

# Value

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- **Defined by the ultimate customer**
  - and then
- **Created by the producer**
  
- **Do you know what your ultimate customer wants?**

# Lean Thinking

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- **Begins with a conscious attempt to precisely define value in terms of specific products with specific capabilities offered at specific prices**
- **Through a dialogue with specific customers**

# Basic Principles of Lean

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- **Value stream**
  - **The set of all specific actions required to bring a specific product (whether a good, a service, or, increasingly, a combination of the two) through the three critical management tasks of any business**

# Basic Principles of Lean

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- **Problem-solving task**
  - **Concept   design   engineering   production   launch**  
→
- **Information management task**
  - **Order taking   scheduling   delivery**  
→
- **Physical transformation task**
  - **Raw materials   finished product   customer**  
→

# Value Stream Analysis

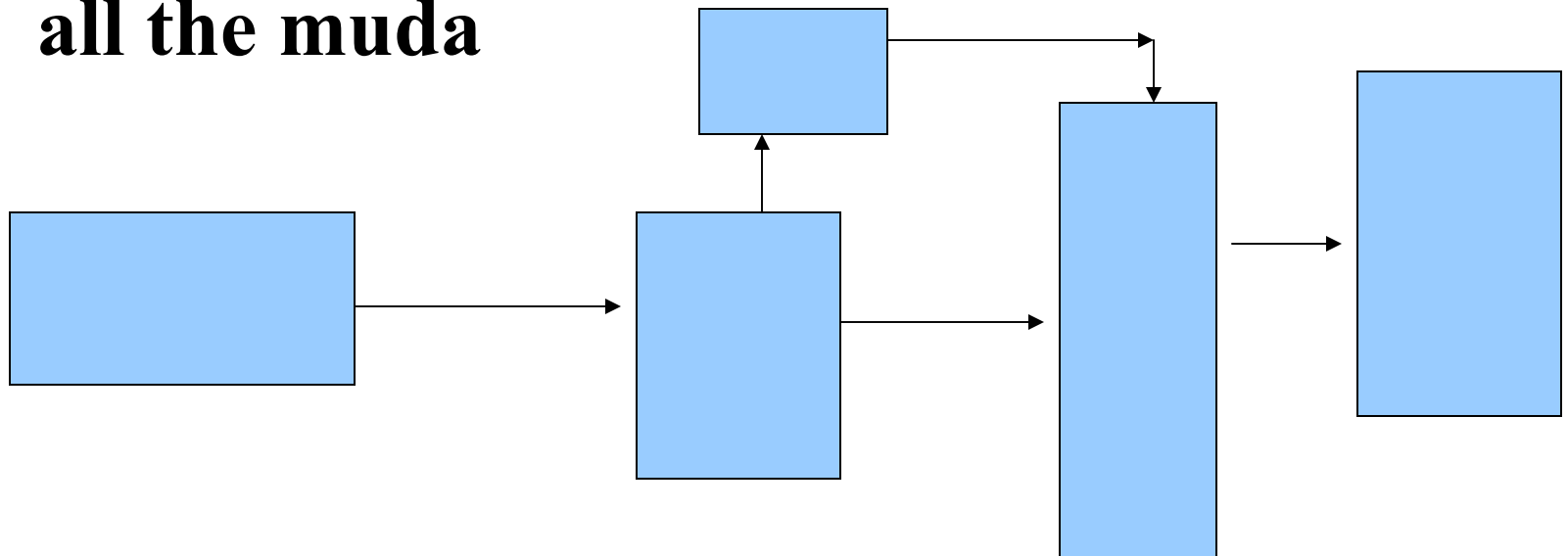
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- **Actions that create value in spite of themselves**
- **Actions that create no value and can be immediately eliminated**
- **Actions that create no value but cannot be eliminated due to existing processes, technology, etc.**

# The Lean Enterprise

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- **A continuing conference of all of the concerned parties to create a channel for the entire value stream, dredging away all the muda**



# The Lean Enterprise

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- **Transparency at all levels**
- **Everyone can see everything**
- **Immediate feedback**
- **Open-book management**

# Basic Principles of Lean

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- **Flow**
  - **Map the value stream for a particular product**
  - **Eliminate wasteful steps**



# Basic Principles of Lean

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- **Flow**
  - **Redefine the work of functions, departments, and firms so they can make a positive contribution to value creation and to speak to the real needs of employees at every point along the stream so it is actually in their interest to make value flow**



# Basic Principles of Lean

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- **Pull**

- **It is letting the customer pull the product from the organization, as needed, rather than pushing the product onto the customer**



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# Basic Principles of Lean

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- **Flow**

- **Product development**      - **50%**
- **Order processing**         - **75%**
- **Physical production**      - **90%**



# Basic Principles of Lean

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- **Perfection**
  - **No end to the process of reducing effort, time, space, cost, and mistakes, while offering a product which is ever more nearly what the customer actually wants**

# **The Benefits of Lean Thinking**

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- **Elimination of waste in processes**
- **Bottom line impact**
- **Morale booster**
- **Cycle time reduction**
- **Process improvement**
- **Inventory reduction**

# **The Challenges of Lean Thinking**

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- **Silos**
- **Embedded practices**
- **Change management**
- **Existing practices**

# Terms

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- **Kaikaku - radical improvement**
- **Kaizen - continuous incremental improvement**

# Value

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- **Challenge traditional definitions of “value”**
- **Determine value in terms of the whole product**
- **The target cost**
- **The target cost**
  - **What the market will bear?**
  - **Work backward including profit margin**
  - **Look at current bundles of pricing and features being offered by conventional firms**
  - **What is the muda –free cost of this product, once unnecessary steps are removed and value is made to flow?**

# Value

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- **Decrease price**
- **Add features or capabilities**
- **Add services**
- **Expand distribution and service network**
- **Underwrite additional products**

# The Value Stream

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- **Map each value stream – Carton of Cola**
  - **Carton**
  - **Aluminum**
  - **Corn Syrup**
  - **Sugar**

# The Value Stream

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- **Add value in spite of themselves**
- **Add no value**
- **Add no value but require change in format or technology**

# The Techniques of Flow

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- **1. Focus on the actual object**
- **2. Ignore the traditional boundaries**
- **3. Rethink specific work practices and tools to eliminate backflows, scrap, stoppages so that the design, order, and production of the specific product can proceed continuously**

# Flow

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- **Product development**
  - **Quality Function Deployment**
  - **Small dedicated product development teams**
- **Order Taking**
  - **Sales and production planning are part of the product team**
  - **As product is designed = sales campaign is designed**
  - **Takt time – synchronizes rate of production to the rate of sales to the customer**

# Flow

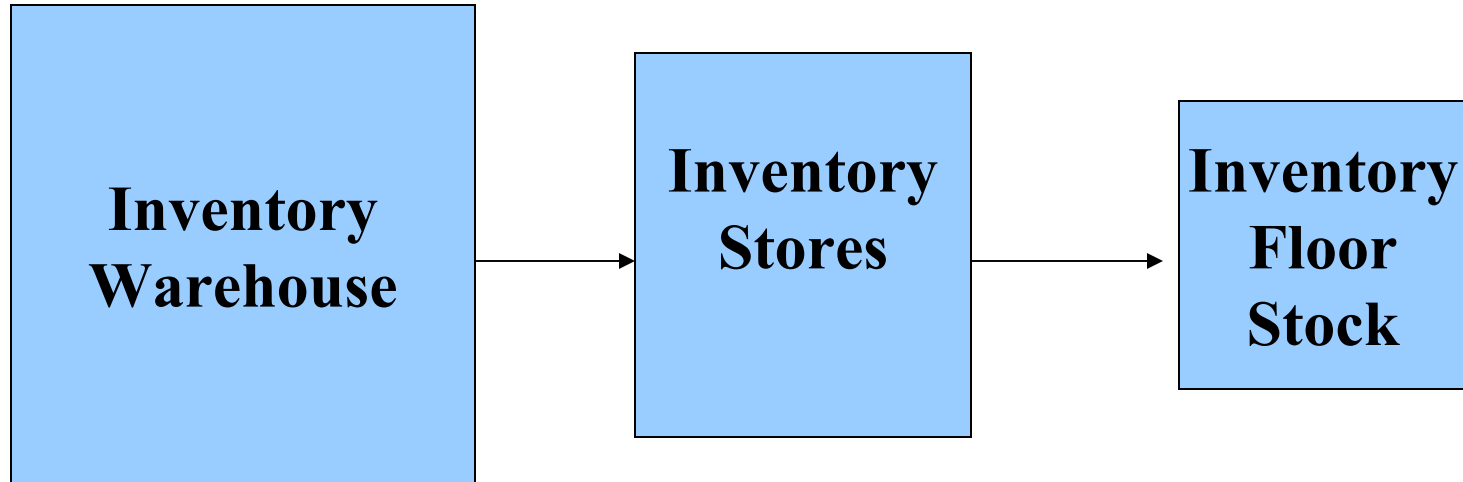
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- **Production**
  - **Reduce move time**
  - **Cellular set-up**
  - **Level scheduling**
  - **Set-up reduction time**
  - **Location**
  - **Machinery**

# Push

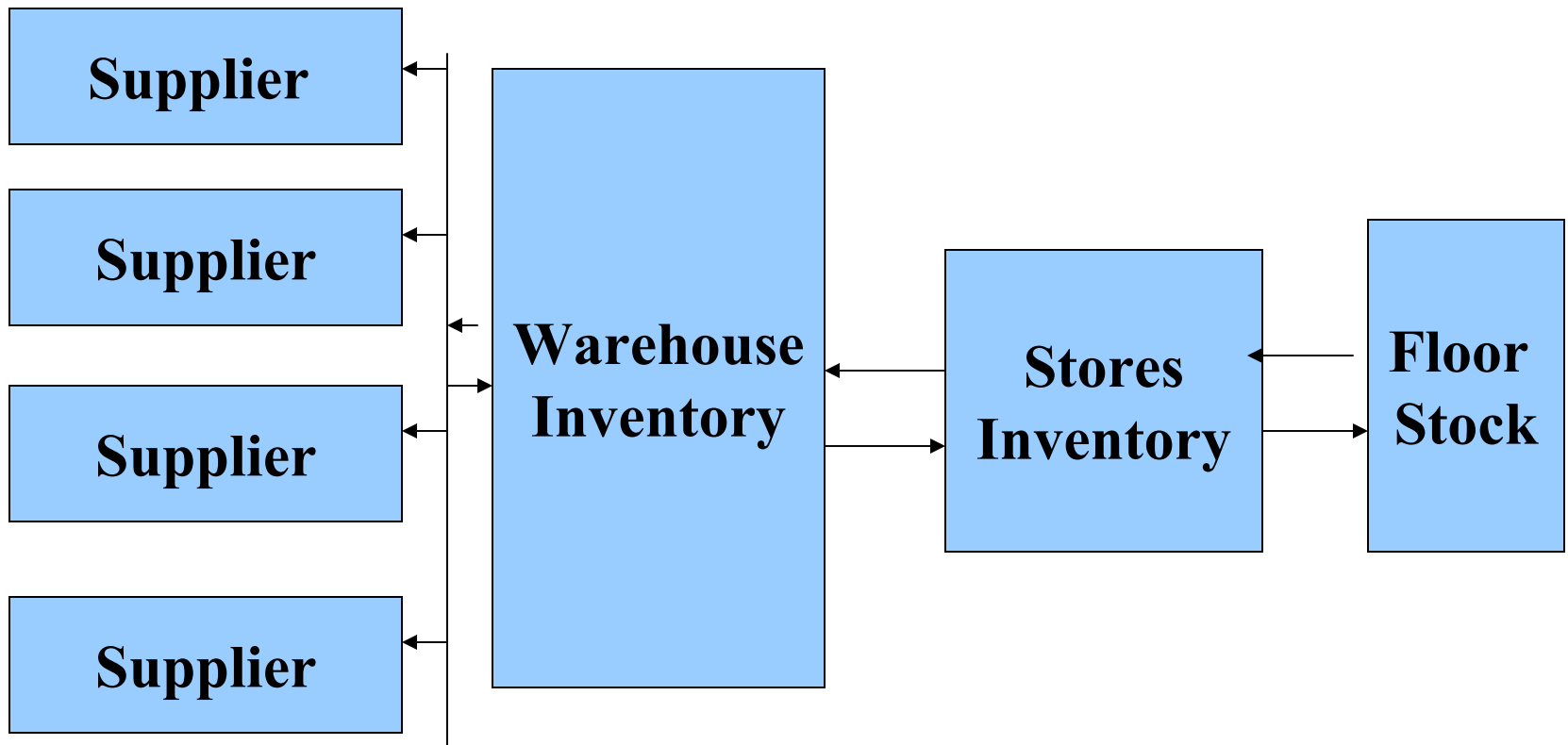
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- **Based on past-history**



# Pull

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# Pull

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- **Ship One, Make One**

# Perfection

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- **The incremental path - Kaizen**
- **The radical path - Kaikaku**

# An Action Plan

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- **Find a change agent**
- **Get the knowledge**
- **Find a lever by seizing the crisis or by creating one**
  - **Competitor**
  - **Supplier**
  - **Customer**
  - **Future product**
- **Forget grand strategy for the moment**
  - **Don't wait to analyze the business**
  - **Begin lean principles**
- **Map your value streams**

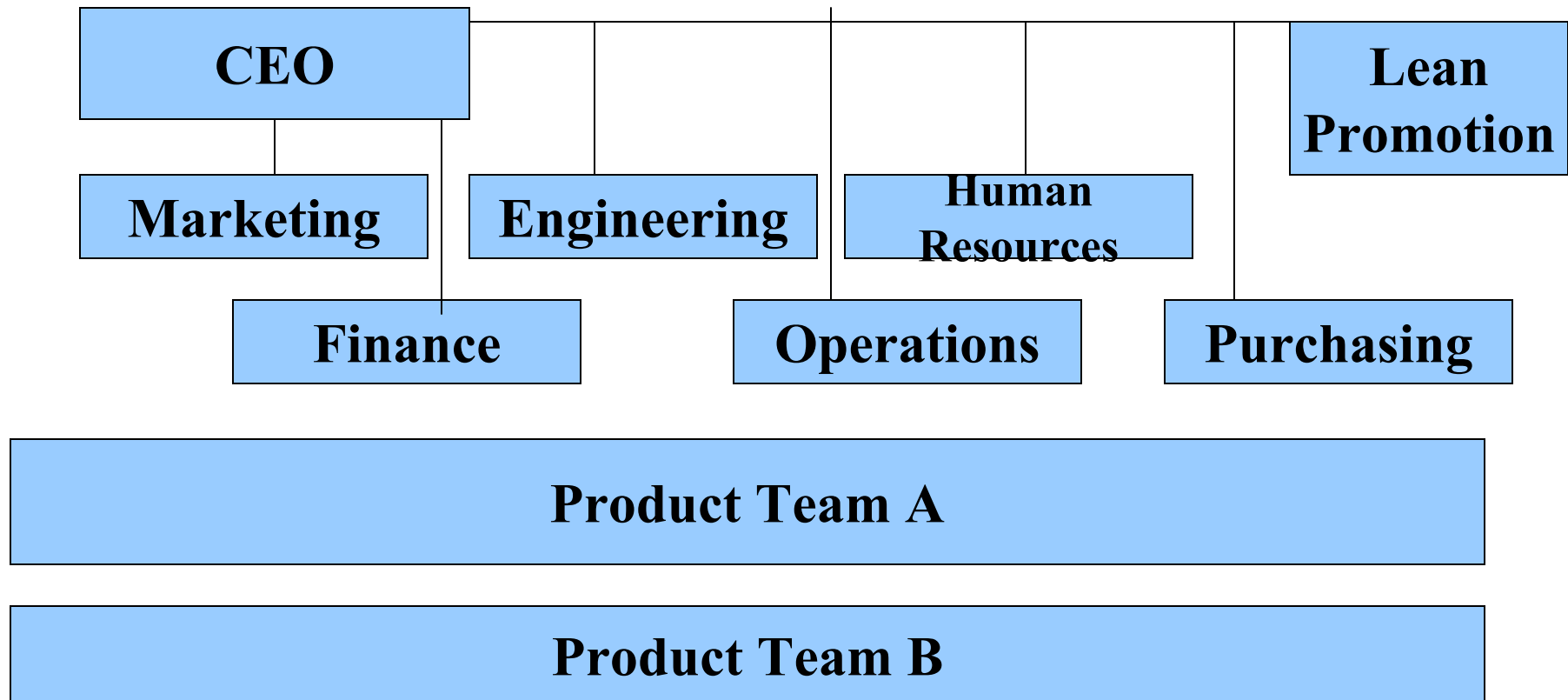
# An Action Plan

- **Begin as soon as possible with an important and visible activity**
  - Physical production activity
  - Poor performer
  - Important to the organization
- **Demand immediate results**
- **As soon as you've got momentum, expand your scope**
  - **Expand to other activities in the value stream**
- **Creating an organization to channel your streams**
  - Mind-set
  - Product manager/leader
  - Temporary failure to getting to results

# **An Action Plan**

- **Reorganize your firm by product family and value steam**
  - **Physical production**
  - **Order-taking**
  - **Product development**

# An Action Plan



# An Action Plan

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- **Create a lean promotion function**
  - **The Prototype Lean Organization**
- **Deal with excess people at the outset**
- **Devise a growth strategy**
- **Remove the anchor-draggers**
- **When you've fixed something, fix it again**
- **Two steps forward and one step backward**

# An Action Plan

- **Install business systems to encourage lean thinking**
    - Utilize policy deployment
    - Create a lean accounting system
    - Pay your people in relation to the performance of the firm
    - Make everything transparent
    - Teach lean thinking and skills to everyone
  - **Completing the transformation**
    - Convince your suppliers and customers to take the steps just described
    - Develop a lean global strategy
    - Convert from top-down leadership to bottom-up initiatives
- Right-size your tools**

# The Supply Chain Evolution

- **Materials Management – 1960's**

**Integrated  
Approach to  
Managing  
Materials**

**All materials  
Functions Under  
One Head**

**All Materials  
Functions**

**Decisions based  
On a Review of  
Total Picture**

# Supply Chain Management

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- **Encompasses all activities associated with the flow and transformation of goods from the raw materials stage (extraction), through to end users, as well as the associated information flows.**

# Supply Chain Management

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- **Material and information flows both up and down the supply chain. The supply chain includes systems management, operations and assembly, purchasing, production scheduling, order processing, inventory management, transportation, warehousing, and customer service**

# Supply Chain Management

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- **Supply chains are essentially a series of linked suppliers and customers; every customer is in turn a supplier to the next downstream organization until a finished product reaches the ultimate end-user**

# Supply Chain Management

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- **The integration of these activities through improved supply chain relationships to achieve a sustainable competitive advantage**

# ISM

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- **A systems approach to managing the entire flow of information, materials, and services from raw materials suppliers through factories and warehouses to the end-customer**

# ISM

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- **The design and management of seamless, value-added processes across organizational boundaries to meet the real needs of the end customer**
  - **Physical chain**
  - **Information chain**
  - **Financial chain**
  - **Relational chain**

# Definitions

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- **Supply Management**
- **The forecasting, planning, sourcing, acquisition, storing, managing, and disposing of materials used or for potential use to support the organization's production, distribution, and customer service**
- **Supply Chain Management**

# Supply Chain Management

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- **Objectives**

- Reduce or share risks
- Improve performance
- Reduce cycle time
- Reduce costs
- Improve customer service/satisfaction

- **Key Factors**

- Spans organizational boundaries
- Treats organizations within the value chain as a unified virtual business entity
- Integrates logistics, marketing, and sales
- Integrates partnerships with first and second tier suppliers

# Drivers

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- **Technology**
- **Global environment**
- **Customer expectations**
  
- **“Whoever puts together the best integrated supply chains will be the winners.”**

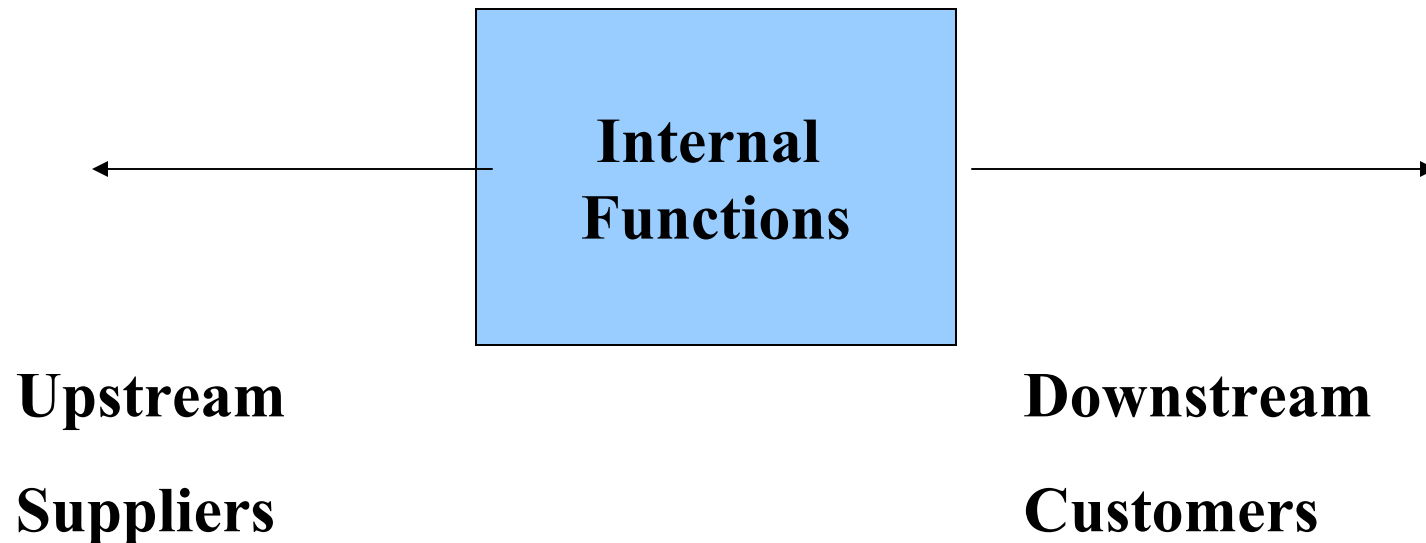
# The Steps

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- **Identify the processes necessary to meet customer expectations**
- **Engineer SCM processes as the core of the business**
- **Move from silo to a team philosophy**
- **Integrate internal processes**
- **Define metrics**

# The Supply Chain

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# Supply Chain Management

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- **Flows that must be managed from suppliers to end customers**
  - **Information flow** →
  - **Cash flow** →
  - **Product flow** →
  - **Time flow** →

# Those Chains

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- **The Physical Chain**
- **The actual movements and flows within and between firms, transportation, service mobilization, delivery, movement, storage, and inventories**
- **The Financial Supply Chain**
- **The flows of cash from firm to firm, incurred expenses, investments, and costs of processes involved in the creation and eventual delivery of goods and services**

# Those Chains

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- **The Relational Supply Chain**
- **The appropriate linkage between a supplier, the organization, and its customers for maximum benefit**
- **The Informational Supply Chain**
- **The processes and electronic systems, data movement triggers, access points for key information capture and use of data, enabling processes and market intelligence that drive the flow of products and services throughout the supply chain**

# **Making a Match**

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- **Lean thinking is the nuts and bolts for/of SCM**
- **Similarities**
  - **Customer focus**
  - **Team orientation**
  - **Continuous improvement**
  - **The bottomline**

# Thank You

- **It is taking the best of both and marrying them for an end to end powerhouse**

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