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Logistic Summit

México 2008

benchmarking
outsourcing
tecnología globalización
estrategia best practices
change management
desarrollo estratégico

El mayor encuentro para profesionales
de logística de la región.

change management

ENFRENTANDO LA INCERTIDUMBRE Y EL CAMBIO

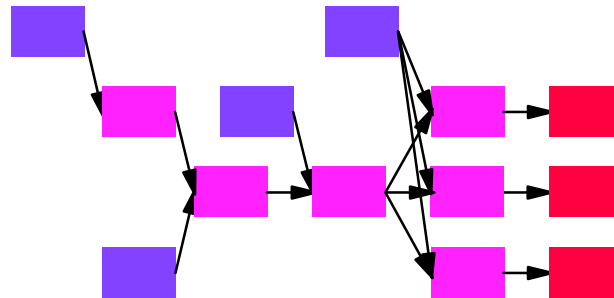


Dr. M. Eric Johnson

El Dr. M. Eric Johnson es Director del Tuck's Glassmeyer/McNamee Center for Digital Strategies y Profesor de Operations Management de Tuck School of Business, Dartmouth College.

Supply Chains for the Information Age: Mastering Uncertainty and Change

M. Eric Johnson
Tuck School of Business
Dartmouth College



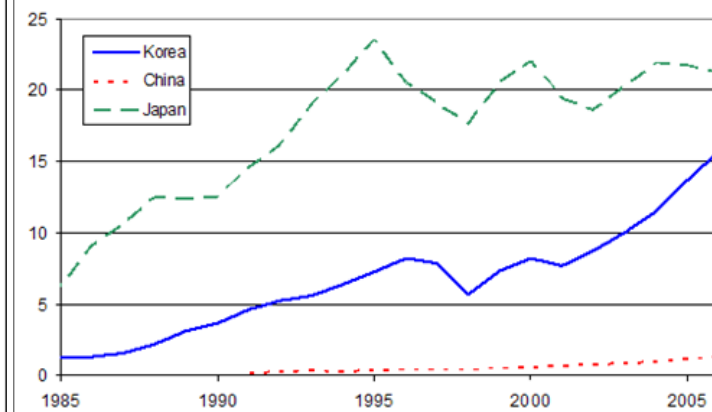
Uncertainty - Supply Chains Are Right In Middle



\$/Korean Won Index
(1995 = 100%)



Labor Cost per Hour in US\$



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Agenda

- Level I Mastery – Reducing Uncertainty
- Level II Mastery – Building Resiliency
- Level III Mastery – Planning for Migration

Demand Characteristics

Functional

Low demand uncertainty
Stable demand
Long product life
Low product customization



Innovative

High demand uncertainty
Short selling season
High product variety
High obsolescence



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Supply Characteristics

Stable

Fewer breakdowns
Stable and higher yields
Fewer quality problems
More supply sources
Reliable suppliers
Dependable lead time



Evolving

Vulnerable to breakdowns
Variable and lower yields
Potential quality problems
Limited supply sources
Unreliable suppliers
Variable lead time



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Supply/Demand Uncertainty Matrix

Demand Uncertainty

Low (Function Products)

High (Innovative Products)

Supply Uncertainty

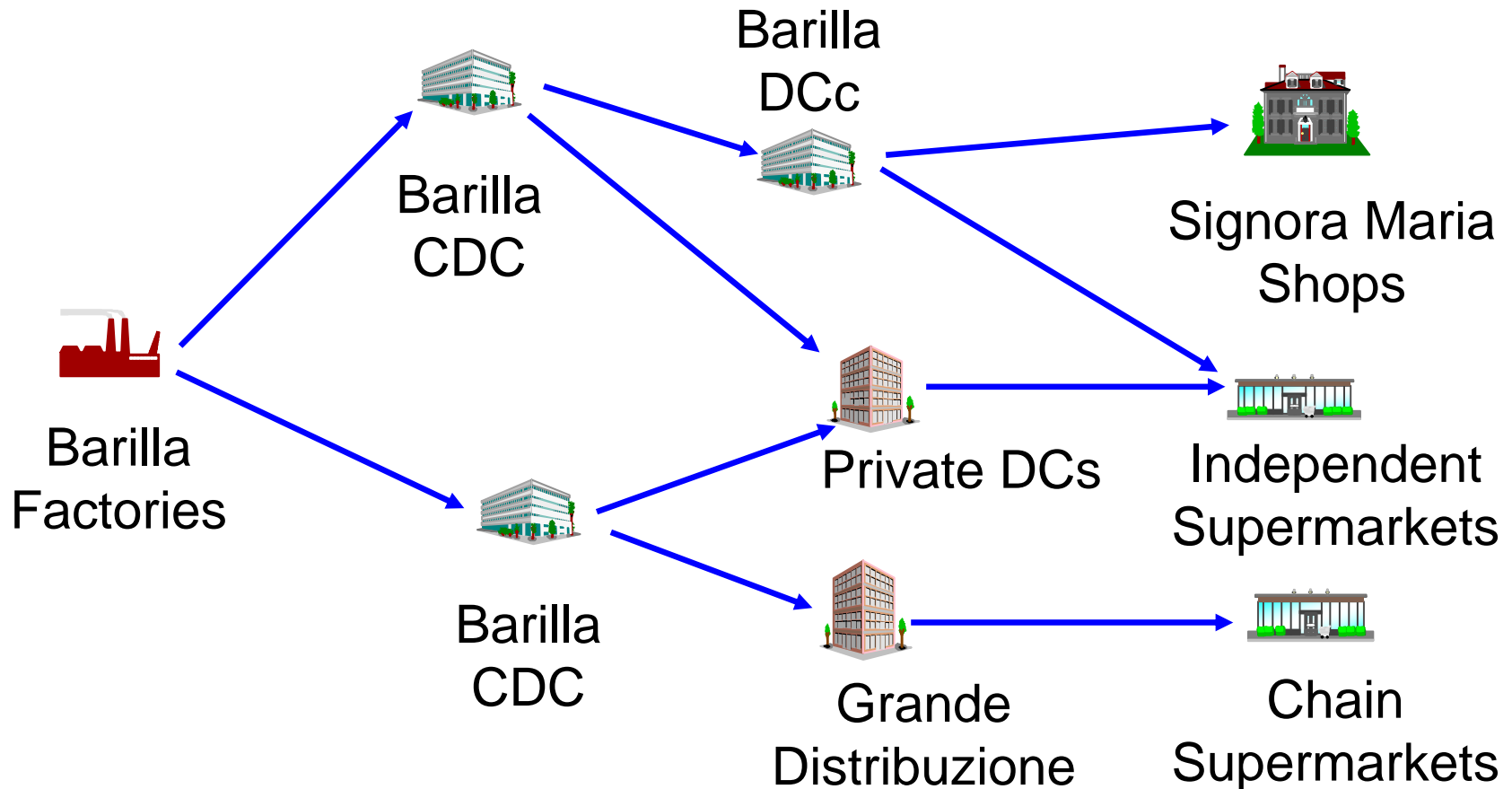
Low (Stable Process)

High (Evolving Process)

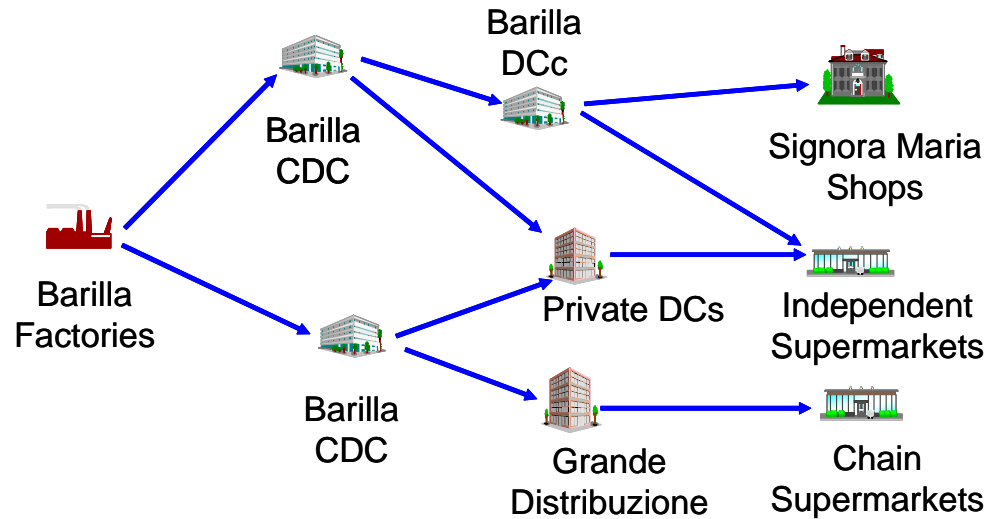
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3 	4 



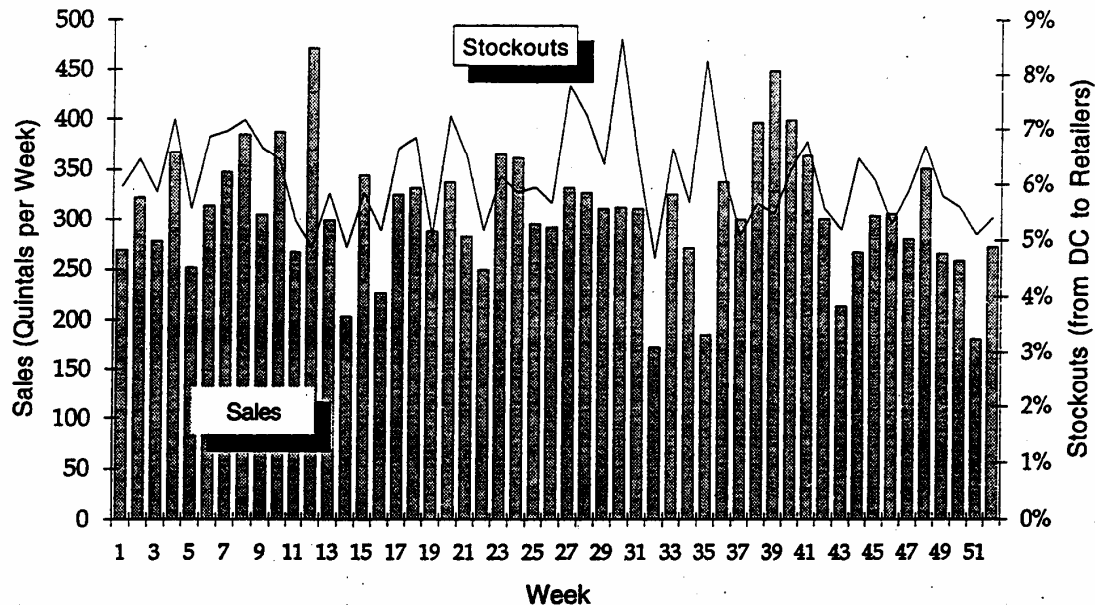
The Barilla Supply Chain



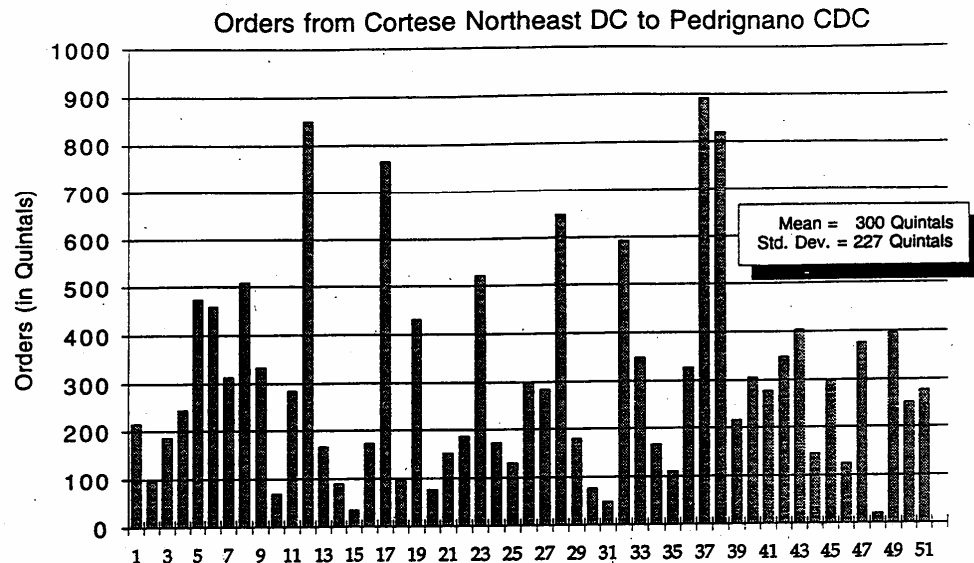
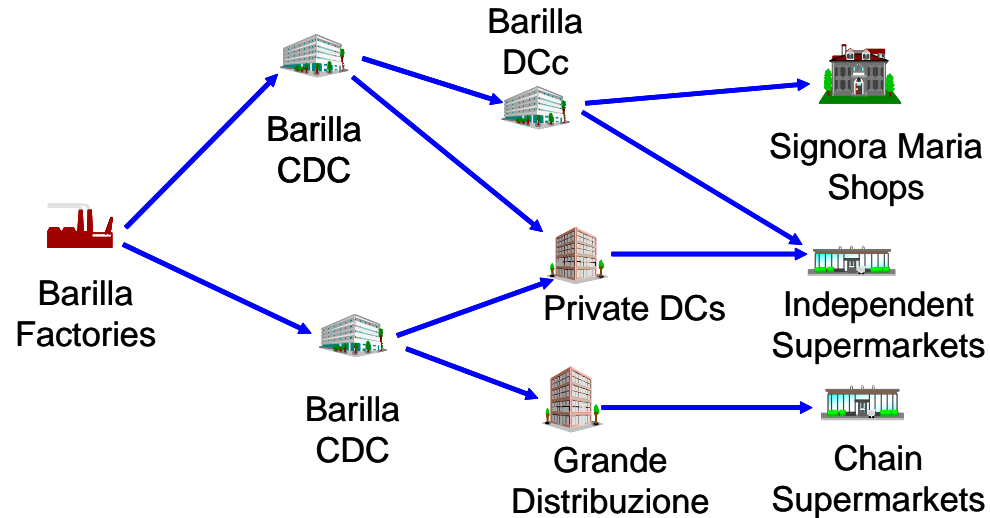
Barilla's Supply Chain



Sales and Stockouts at Cortese Northeast DC



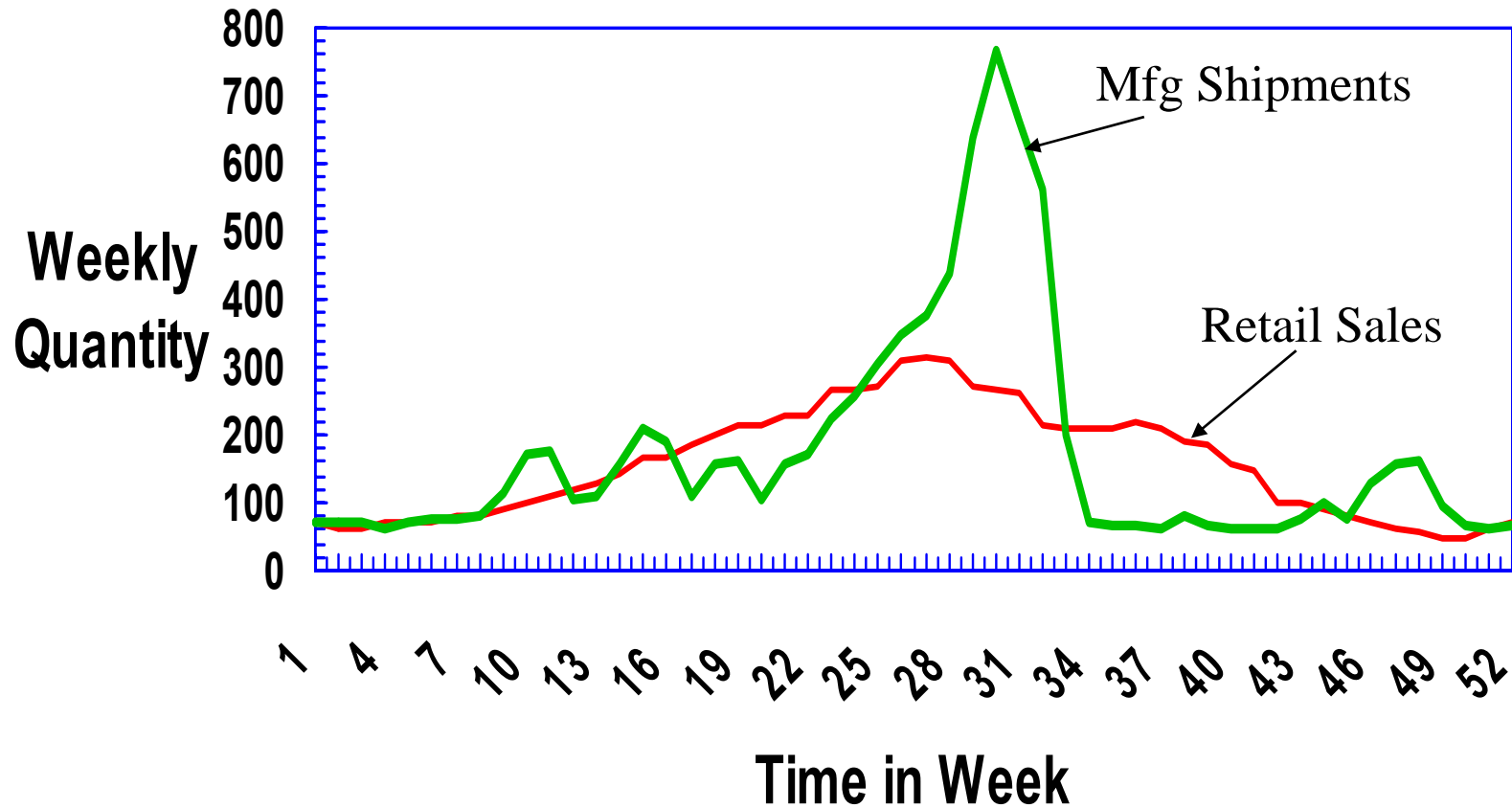
Barilla's Supply Chain



Causes and Costs

- Causes of the fluctuations
- Costs of the fluctuations

Campbell's Soup



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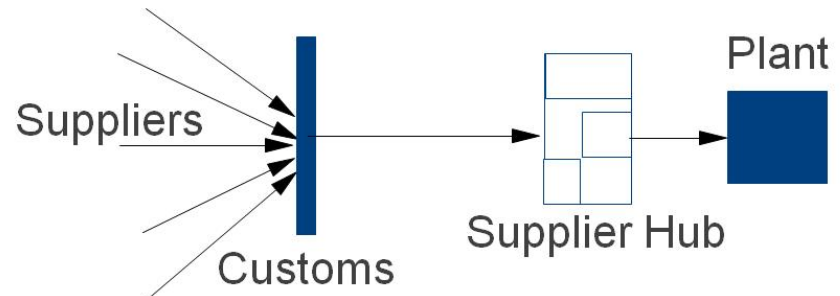
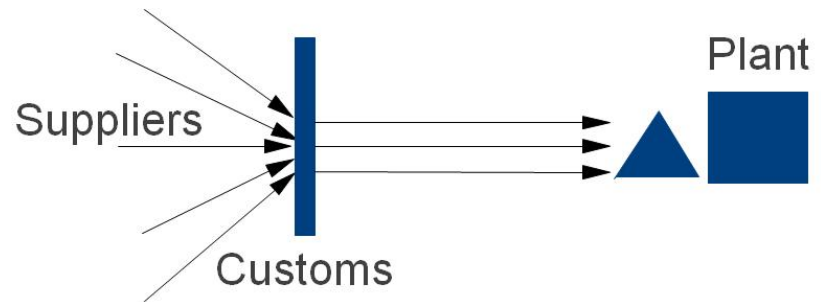
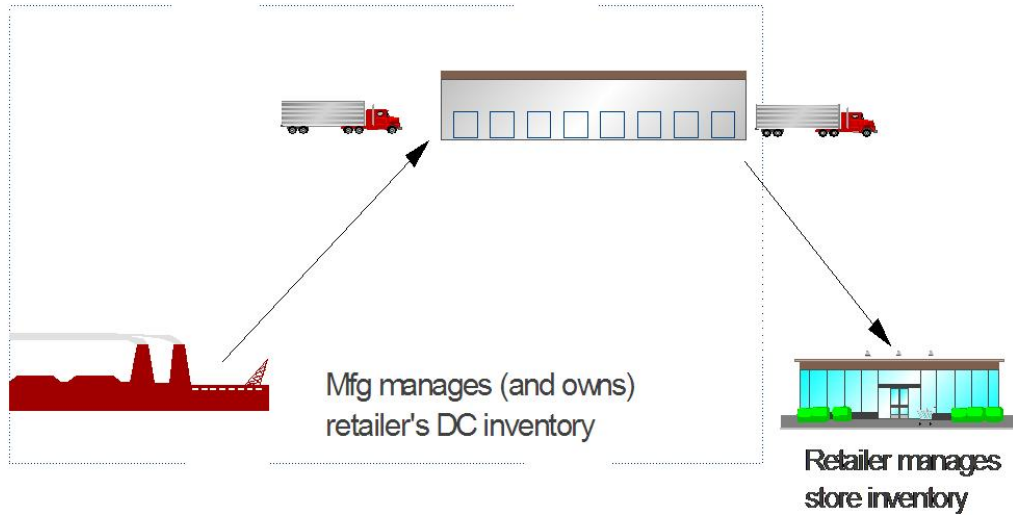
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Solutions



Supply/Demand Uncertainty Matrix

Demand Uncertainty

Low (Function Products)

High (Innovative Products)

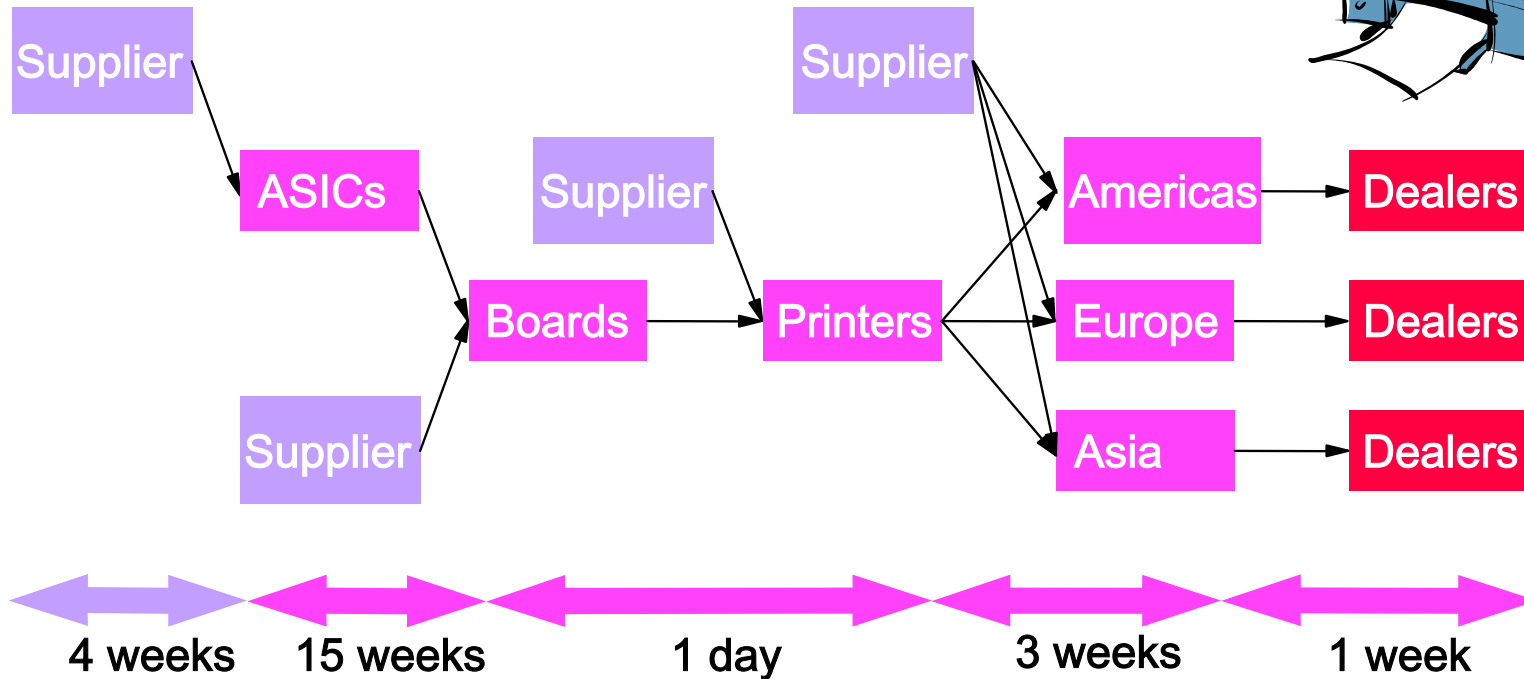
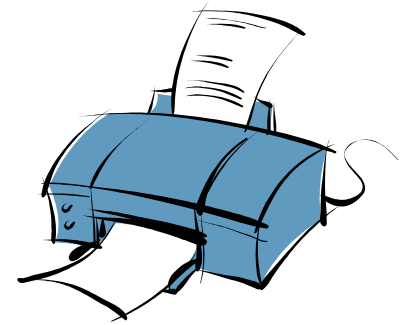
Supply Uncertainty

Low (Stable Process)

High (Evolving Process)

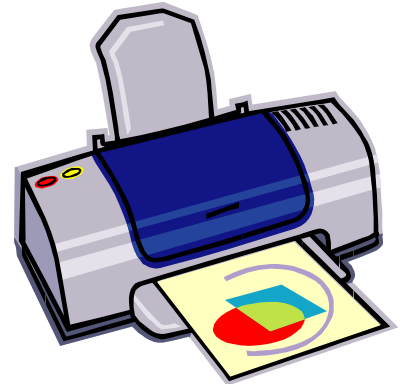
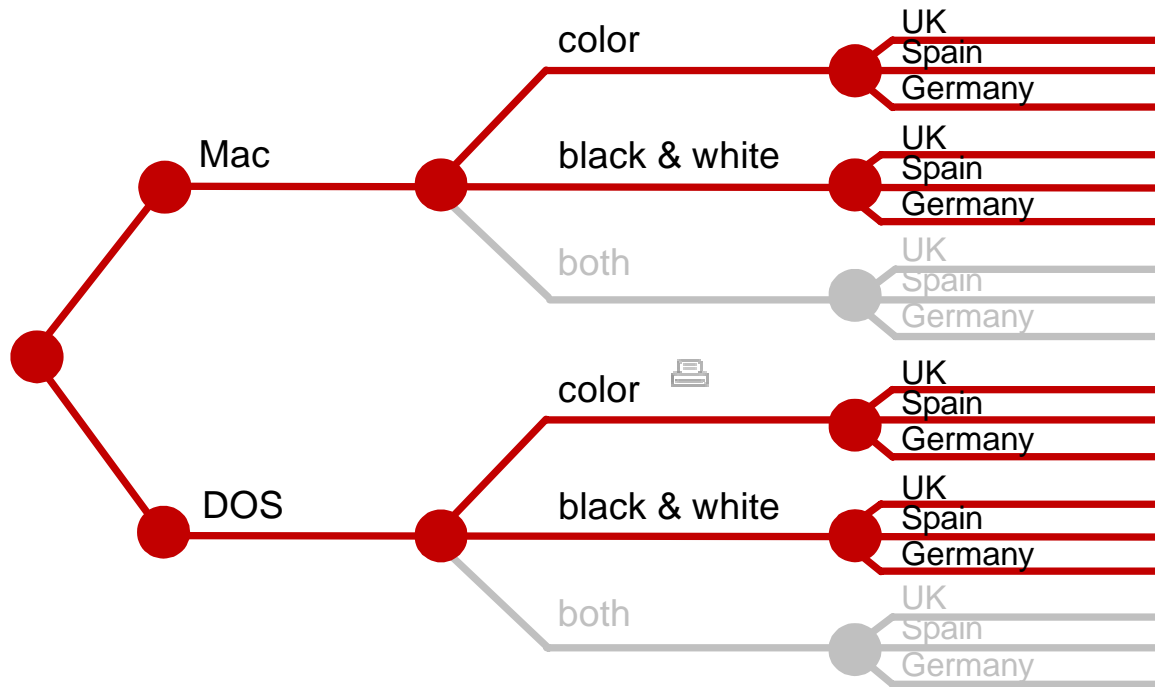
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Printer Supply Chain



Product Design: A Lesson From High Tech

Product Design Proliferation



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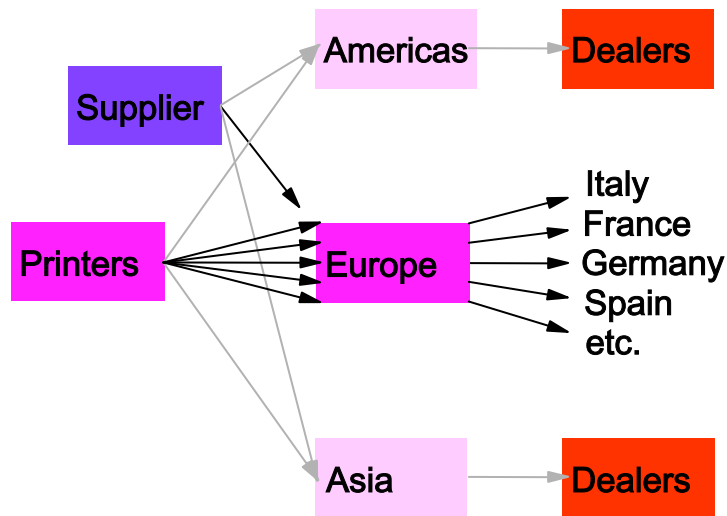
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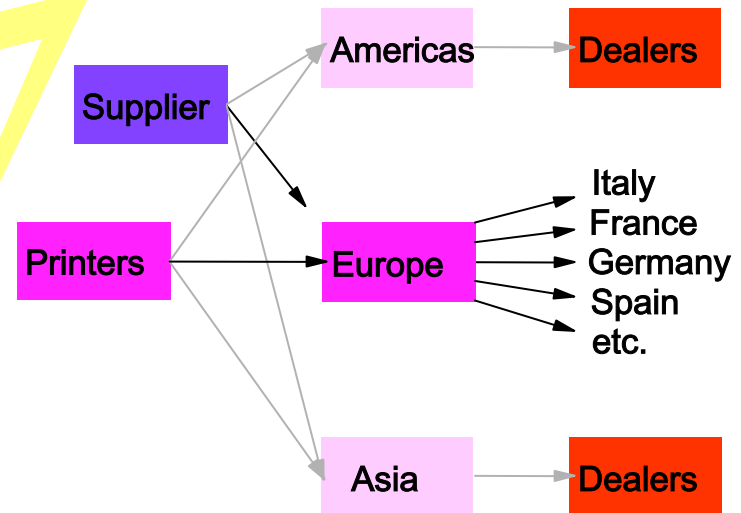
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Postpone Localization



Differentiating at
the factory.

Differentiating at
the warehouse.



Supply/Demand Uncertainty Matrix

Demand Uncertainty

Low (Function Products)

High (Innovative Products)

Supply Uncertainty

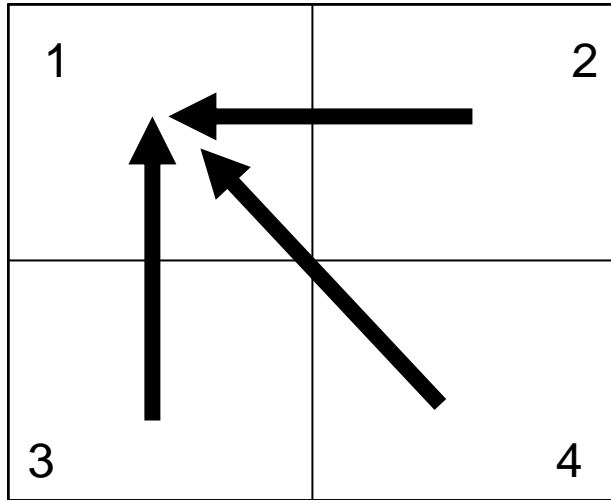
Low (Stable Process)

High (Evolving Process)

1	2
3	4

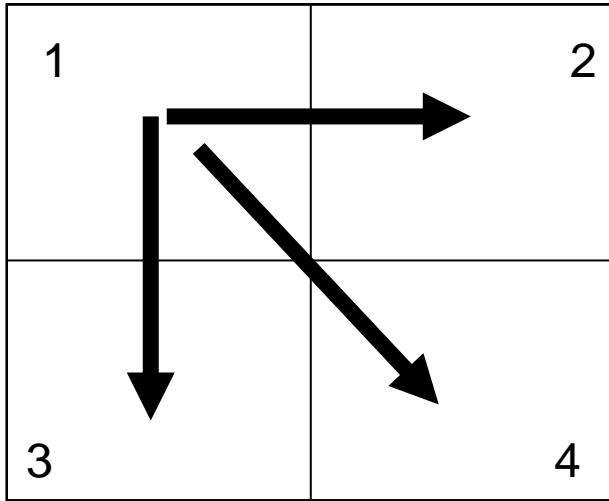


The Supply Chain Life Cycle



The SC Solution – Reduce Uncertainty
The Business Problem - Commoditization

The Supply Chain Life Cycle



The Business Solution – Innovation
The SC Problem - Uncertainty

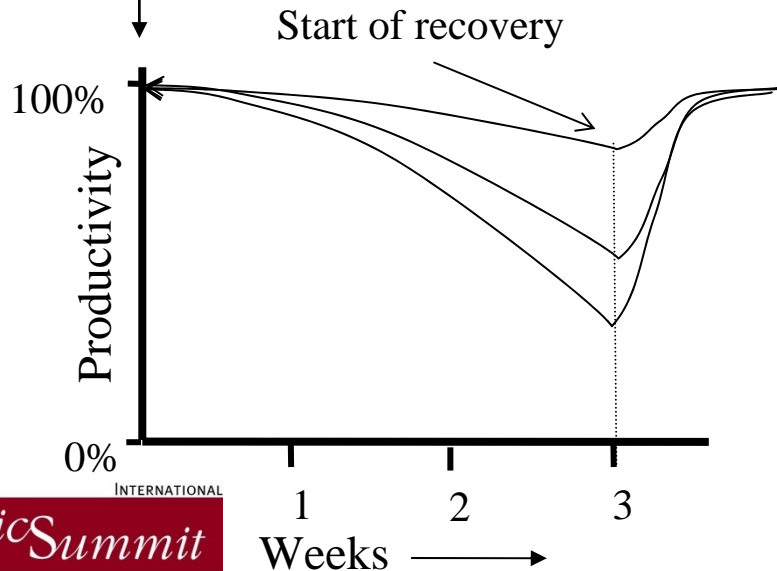
Level II - Resiliency

Rather than simply avoid uncertainty, plan for it and build resiliency.

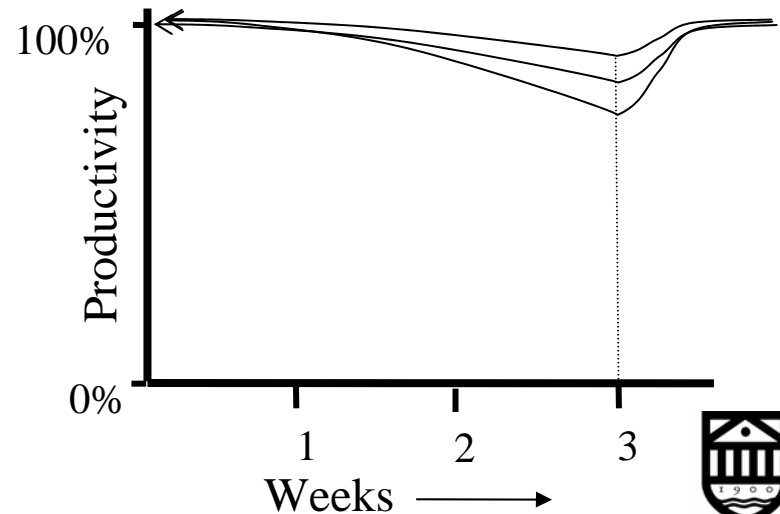
Cyber Attack



“Event”

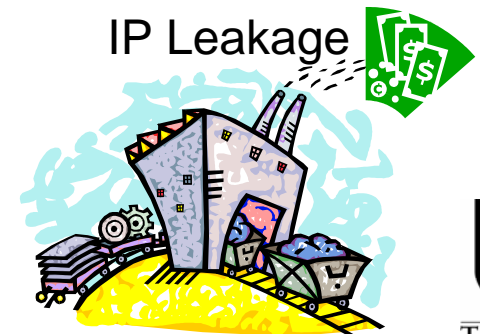


Dock Strike

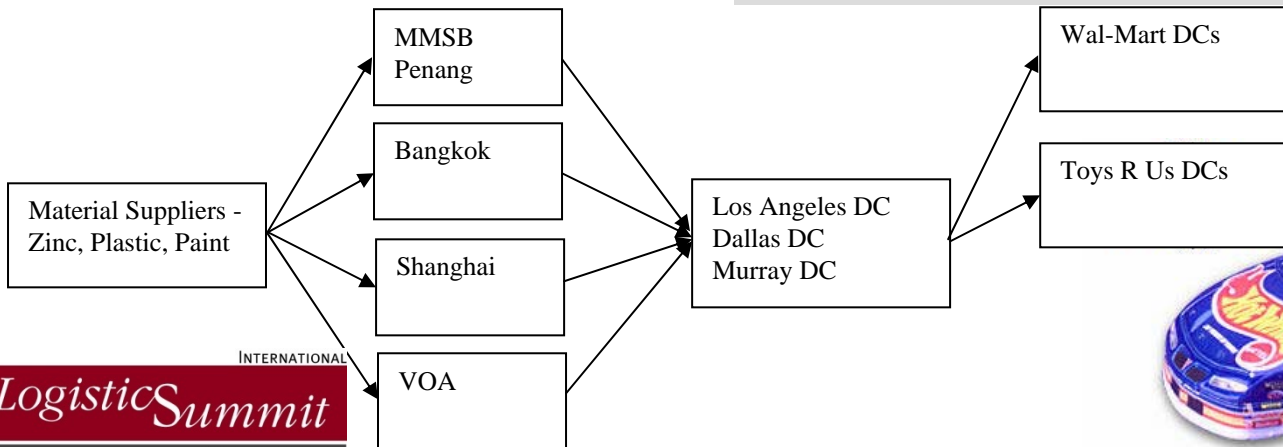
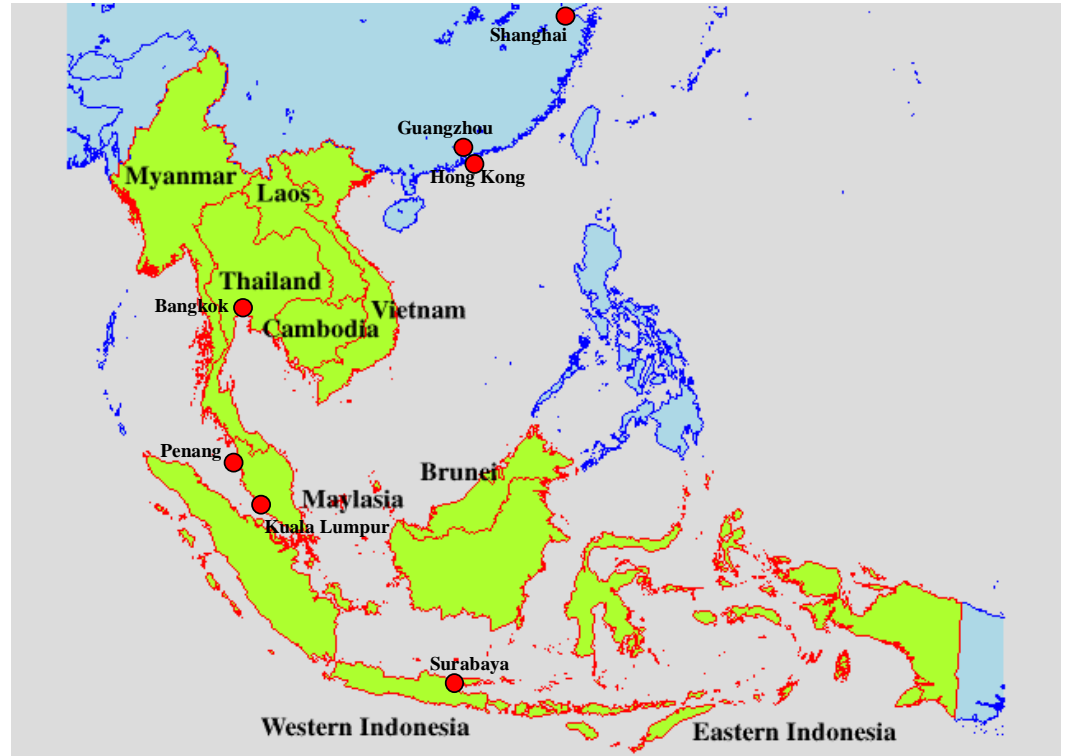


Risk

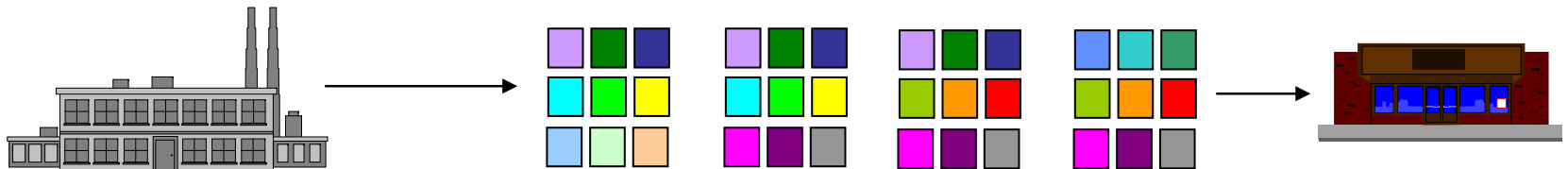
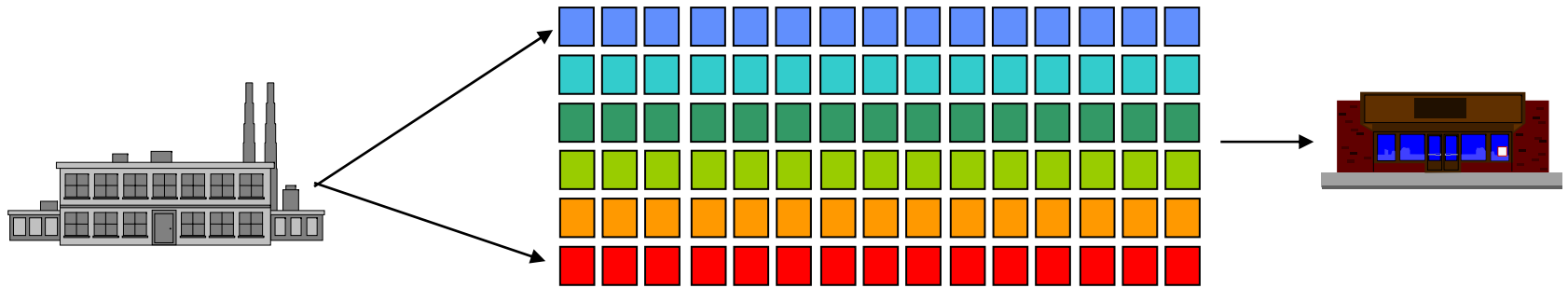
- Measure
 - Define risk measures
- Risk Identification
 - Define direct and indirect risks and link to measures
- Risk Assessment
 - Assess the current risk and develop scenarios
- Risk Management
 - Assess and implement robust mitigation strategies



Mattel: Hedging and Redundancy



Manage Demand: Rolling Mix



Supply/Demand Uncertainty Matrix

Demand Uncertainty

Low (Function Products)

High (Innovative Products)

Low (Stable Process)

High (Evolving Process)

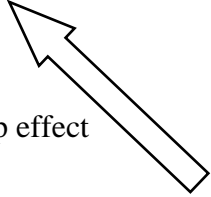
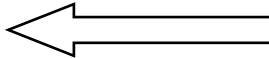

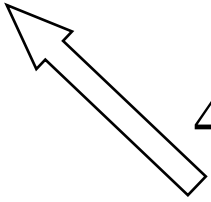
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Supply Uncertainty

Supply/Demand Uncertainty Matrix

Demand Uncertainty

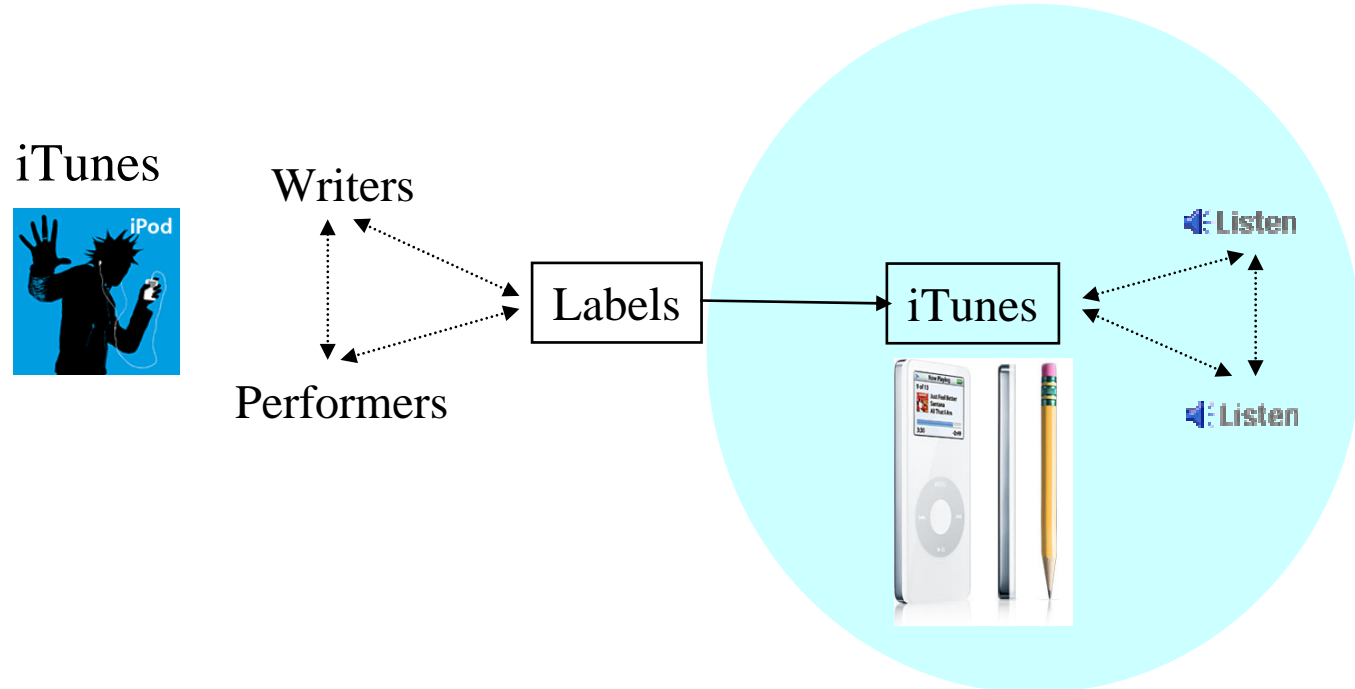
Supply Uncertainty

		Low (Function Products)	High (Innovative Products)
Supply Uncertainty	Low (Stable Process)	<p>1</p> <p>Problem:</p> <ul style="list-style-type: none"> - The bullwhip effect <p>Solutions:</p> <ul style="list-style-type: none"> - Alignment of incentives and information among supply chain partners - Coordinated planning, forecasting and replenishment (CPFR) - Vendor managed inventory (VMI) 	<p>2</p> <p>Problem:</p> <ul style="list-style-type: none"> - Long/uncertain development and lead times - Highly uncertain demand patterns - Short selling season <p>Solutions:</p> <ul style="list-style-type: none"> - Mass customization - Postponement of final customization - Early orders from customers 
	High (Evolving Process)	<p>3</p> <p>Problem:</p> <ul style="list-style-type: none"> - Highly uncertain supply - Disruption risk in supply <p>Solutions:</p> <ul style="list-style-type: none"> - Pooled inventory and resources - Exchanges to extend reach of suppliers and inventory - Contracts that manage risk by locking in factors such as price and delivery 	<p>4</p> <p>Problem:</p> <ul style="list-style-type: none"> - All problems associated with Boxes 1 - 3 <p>Solutions:</p> <ul style="list-style-type: none"> - Postponement of final customization - Pooling of suppliers to hedge uncertainty - Platforms and modular designs that allow for postponement of final customization 

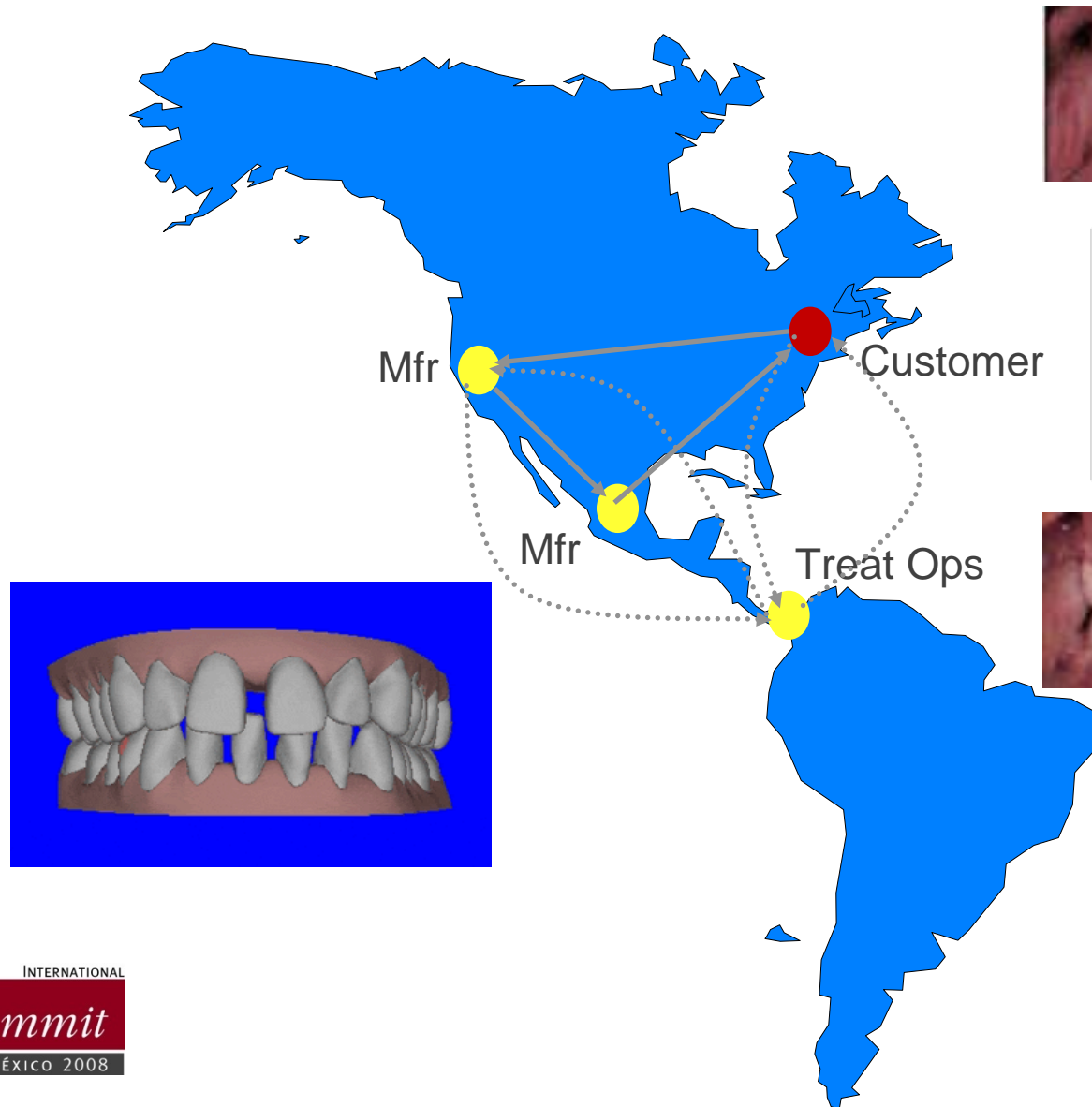


Level III – Value Migration

Migrate toward areas of the supply chain that offer high value, while exiting areas that have shrinking value.

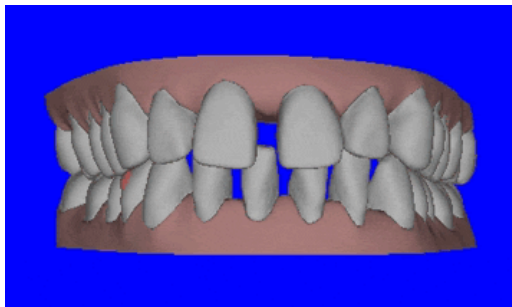


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Product or Service?

Distinctive Operational Characteristics

Manufacturing

Services

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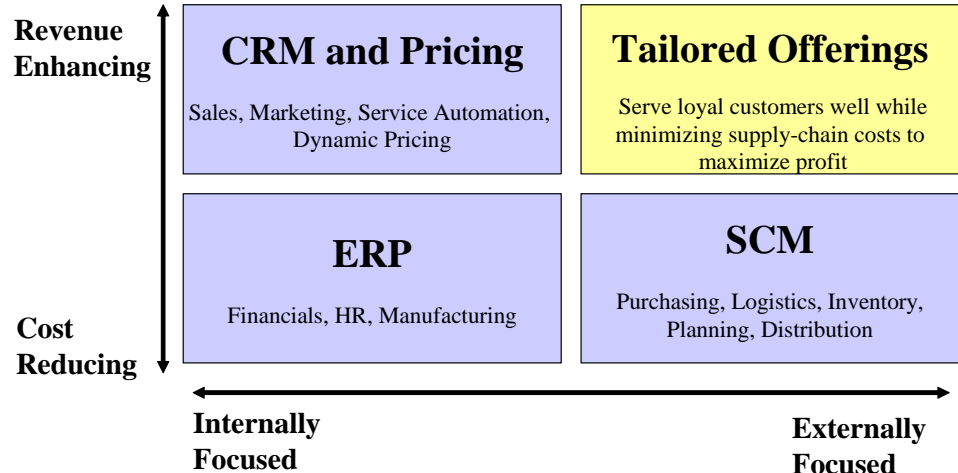
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Summary

- Level I
 - Different supply chains exhibit different problems and solutions
 - Employ solutions that reduce uncertainty
- Level II
 - Resilient supply chains that embrace low-cost sourcing
 - Managing risk while lowering cost
 - Risk of interdependency
 - IP risk
- Level III
 - Differentiate by new products, processes, tailored offers
 - Integrating service supply chains
 - Create new supply chains
 - Leverage partnerships



Information as a Basis for Tailored Offerings

Read More

www.tuck.dartmouth.edu/digitalstrategies

Johnson, M. Eric (2006), "Ready for the Digital Future?" *Supply Chain Management Review*, July-August, 26-32.

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