



JUST IN CASE - NOT - JUST IN TIME REDUX

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Who is Greg Hutchins?

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- Sourcing columnist: China
- Engineering columnist: ASQ/IEEE
- Author of **ISO 9000** (Wiley, translated into 8 languages), **Standard Manual of Quality Auditing** (Prentice Hall/ASQ), and **Value Added Auditing** (WIT)
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My Mission - Critical Objectives Today:

1. Global sourcing
2. Changing sourcing rules
3. Supply risk management
4. Supply management lessons learned

1. Global Sourcing



We Live in the Age of VUCA

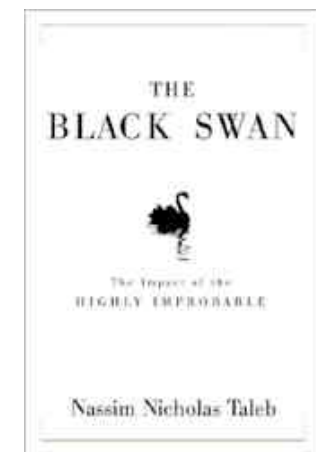
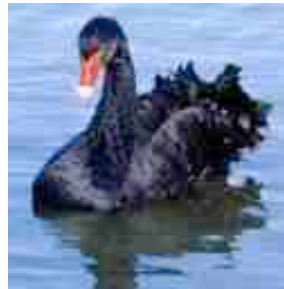
We live in the Age of VUCA

V-olatility

U-ncertainty

C-omplexity

A-mbiguity



Challenge: This is the most critical issues facing organizations and people over the next ten years.

Response: Social, managerial, and organizational system can't and are not adapting.

Implications

- If VUCA is the 'new normal.'
- What does the future of supply management and even more fundamentally general management look like?
- We believe it's **Risk Management**

Today's Business Model

Aerospace and auto companies business model:

- Design Product
- Outsource (up to 85% of manufacturing \$)
- Assemble
- Test
- Manage their brand

Challenges to this business model:

- Boeing
- Toyota

Today's Business Model Impacts Supply Risk

- **Sara Lee Corporation plans to sell its non-core factories.** It will focus on its core strengths, specifically developing new products, managing its brands, and increasing market share.
- Sara Lee will outsource commodity manufacturing and other non-core activities and only **retain its 'highly proprietary' processes.** In other words, it plans to focus on 'what it does best.'
- **Implications:**
 - Manufacturing and outsourcing are synonymous
 - And, who 'owns' supply chain risks?
 - What does supply management look like?

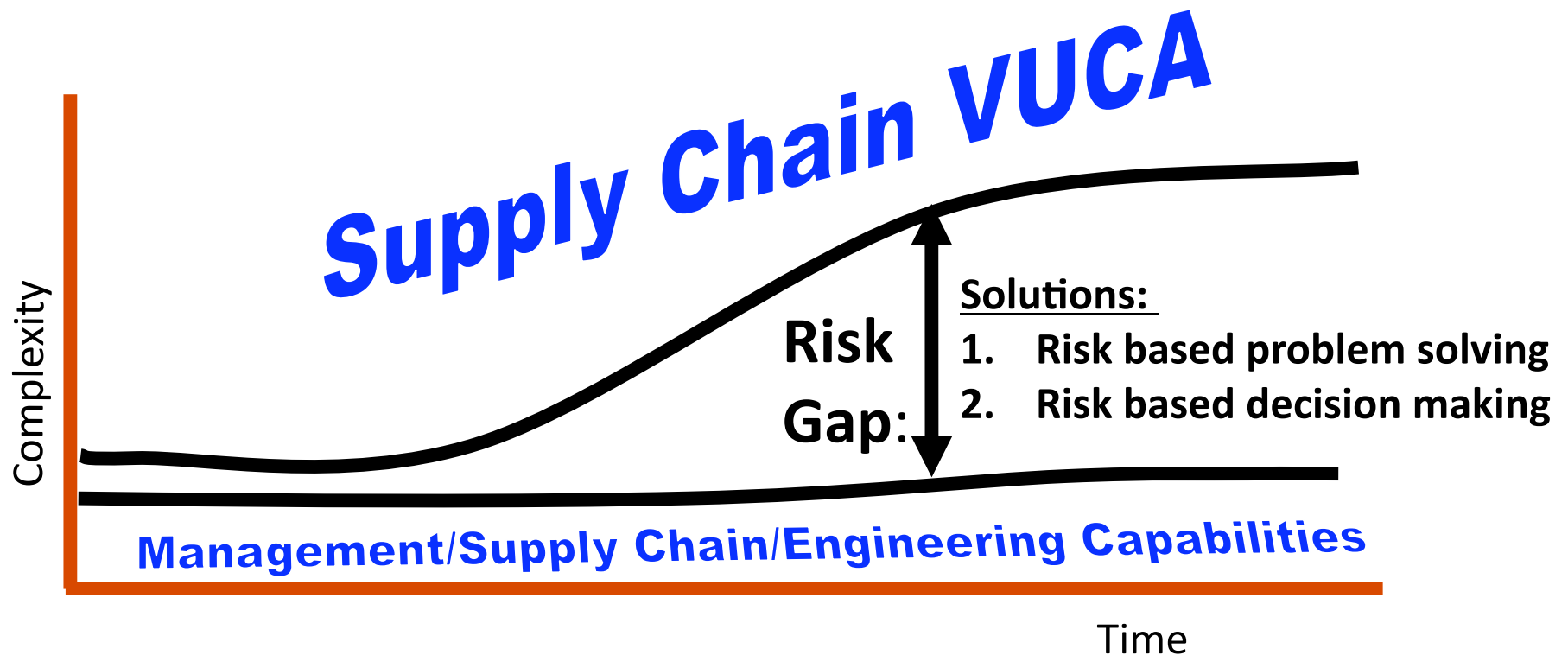
Risk: Focus of Critical Thought Leaders...



Recent Supply Chain Articles

- “Quake Disrupts Key Supply Chains”
- “Stress Test for the Global Supply Chain”
- “Long Pause for Japanese Industry Raises Concerns About Supply Chain”
- “Japan Quake Likely to Affect Business Globally”

Developing New Sourcing Rules to Respond to VUCA



2. Changing Sourcing Rules

From Just in Time to Just in Case

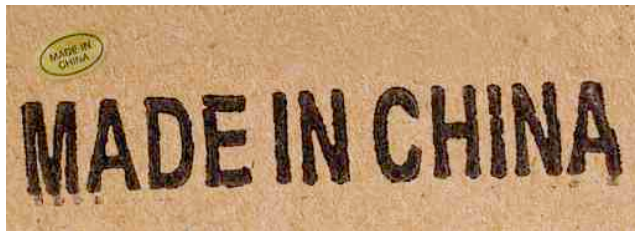


Discussion

- **Challenge:** Just in Time management
 - Lean supply chain
 - No buffer inventories
- **Solution:** Just in Case management
 - What if
 - Risk analysis
 - Buffer inventories

From China Sourcing to US Sourcing

Critical Infrastructure Protection
Quality + Engineering
Forensics - Assurance - Analytics



Discussion

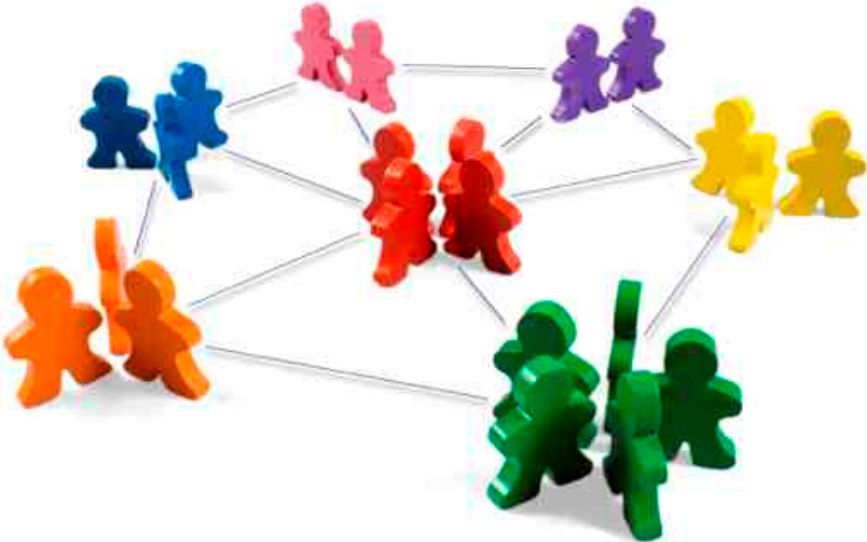
□ **Challenge:**

- China is synonymous with offshoring
- Perceptions of china are 20 years out of date
- China is prosperous
- China has moved upstream into design
- China is growing expensive
 - Average manufacturing-worker wages in China \$4,200 a year per worker in 2009 are likely to double by 2015 (WSJ, 9/29/11, For Foreign Makers, China's Low Cost Image Fades)

□ **Solution:**

- Domestic sourcing
- New supplier relationships based on risk management

From Single Source to Multiple Sources



Discussion

□ **Challenge:**

- Single sourcing makes a lot of sense and offers value to a particular business model
- However, single source can result in supply risks
- Earthquake in China, Japan, New Zealand
- **Risk:** All eggs are in one basket

□ **Solution:** Diversify supply risks

From Price-Based to Risk-Based Decision Making



Discussion

□ Challenge:

- Price or cost has been traditional method of selecting and managing suppliers

□ Solution:

- Now, risk is becoming critical component of selecting and managing suppliers through lifecycle
- 'What if' analyses

From Looking Backward to Looking Forward



Discussion

□ **Challenge:**

- Quality has compliance flavor
- ISO 9001 compliance
- Past performance/past focus

□ **Solution:**

- Risk management
- Future focus
- 'What if' analyses
- Business continuity planning
- Proactive, Preventive, Predictive, & Preemptive™
management

From Supplier Verification to Supplier Validation



Discussion

□ **Challenge:**

- Supplier verification
- Quality compliance
- 'Check the box' reviews

□ **Solution:**

- Supplier validation
- Business continuity planning
- Risk audits
- Holistic reviews
 - Environment, social responsibility, risk, etc.

From Quality Audits to Risk Audits



Discussion

□ Challenge:

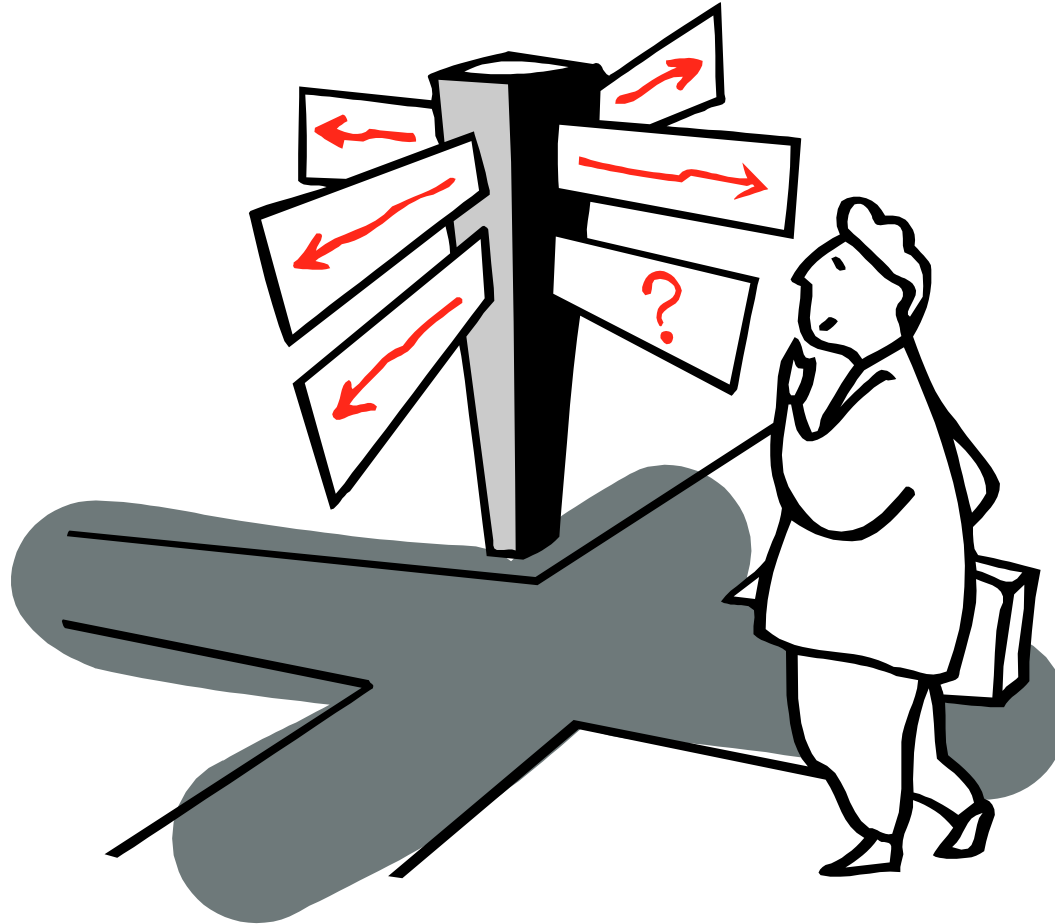
- Quality Audits 'check the box'
- ISO 9000
- Compliance based (still)

□ Response:

- Risk Audits
- 'What if' audits
- White space gaps and risks in supply chain
- Forensic reviews

3. Supplier Risk Management

What Do I Do Now?



This Is How You Start!

1. Determine management's appetite for risk.
2. Identify supply chain risk events.
3. Analyze risk events and assign risk vectors for likelihood and severity.
4. Quantify: determine risk products and prioritize.
5. Begin working with highest risk products (RP).
6. Determine appropriate risk- controls at 1. Enterprise; 2. Process/Program; and 3. Product levels.
7. Implement and monitor risk controls.
8. Manage risks by monitoring and repeating the process.

Two Risk Definitions

Risk – The possibility that an event will occur and adversely affect the achievement of objectives.

COSO, Enterprise Risk Management Framework, web, 2003.

Risk – A situation or circumstance, which creates uncertainties about achieving program objectives.

FAA Programmatic Risk Management, 2002, p. 6.

Risk Appetite: Are You a Risk Taker?



Risk Identification Process

1. Flowchart the overall supply chain and sub processes.
2. Identify critical supply chain system, process, and production activities.
3. Determine likelihood of unwanted variation (risk events).
4. Identify which sources of variation represent higher severity.
5. Determine risk product profile.

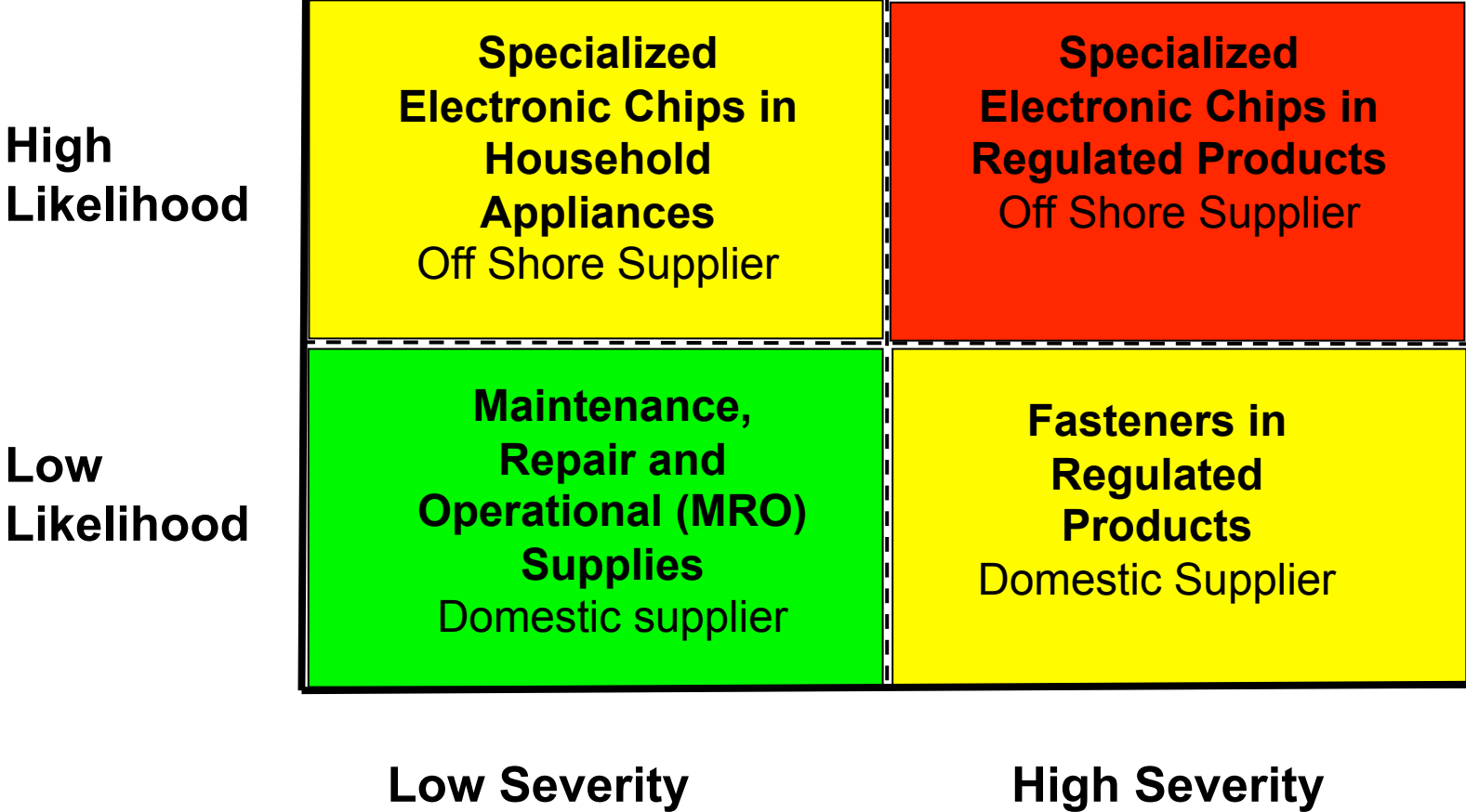
Supply Chain Risk Events

- Early/late shipments or delivery to wrong location
- Non-conforming/wrong product or quantity
- Supplier processes
- Sole source supplier
- Undesirable events (storm, flood, earthquake, etc.)
- Contract, legal and regulatory non-conformance.
- Information system failure and compromises
- Supplier country political stability

Risk Continuum



Sample Risk Profile for Late or Non-Delivery



Likelihood of Occurrence

Descriptor	Probability	Rank	Value
Highly Probable	>75%	High	5
Probable	>50%<75%	Medium High	4
Occasional	>25%<50%	Medium	3
Remote	>10%<25%	Medium Low	2
Improbable	<10%	Low	1

Consequence or Severity of Impact

Descriptor	Rank	Value
Catastrophic	High	5
Critical	Medium High	4
Serious	Medium	3
Marginal	Medium Low	2
Negligible	Low	1

Risk Product Profile

		Severity of Impact				
Likelihood	Negligible	Marginal	Serious	Critical	Catastrophic	
Highly Probable	1x5= 5	2x5= 10	3x5= 15	4x5= 20	5x5= 25	
Probable	1x4= 4	2x4= 8	3x4= 12	4x4= 16	5x4= 20	
Occasional	1x3= 3	2x3= 6	3x3= 9	4x3= 12	5x3= 15	
Remote	1x2= 2	2x2= 4	3x2= 6	4x2= 8	5x2= 10	
Improbable	1x1= 1	2x1= 2	3x1= 3	4x1= 4	5x1= 5	

High Level SC Risk Matrix

Severity of Impact

Likelihood	Negligible	Marginal	Serious	Critical	Catastrophic
Highly Probable			Pending legislation adds 2 days to on-dock time		
Probable			Non-ISO verified vendors	Non-ISO certified vendors	Sole source vendor in tornado alley
Occasional	Nationalization of MRO supplier		Key component delivery late 26%	Critical component lost shipments	
Remote					
Improbable					

Develop Strategy: Control Risk

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Develop Strategy: Accept Risk

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Source: New Yorker

Develop Strategy: Avoid Risk!



"Would you please elaborate on 'then something bad happened'?"

"Would you please elaborate on 'then something bad happened'?"

Source: New Yorker

4. Supply Management Challenges!

Increasing supply risks:

- ❑ Outsourcing increases risk
- ❑ Leaning of supply chains increases risk
- ❑ Increasing 'black swans' are huge risks events
- ❑ Increasing regulations are risky
 - ❑ Commercial, security, etc.
- ❑ Homeland security supply chain risks

Implications:

- ❑ We live in a VUCA world
- ❑ This is our 'New Normal'



Responses

Critical issues:

- ❑ Organizations can't respond adequately to risks
- ❑ Management is struggling to respond
- ❑ We as individuals are denying the 'New Normal

Implications:

- ❑ **Critical Question:** "Who owns supply chain risks?"
Manufacturing/Purchasing/Quality/Etc.
- ❑ Future of general management is:
 - ▣ Risk based problem solving
 - ▣ Risk base decision making

Q+E Response:

Certified Enterprise Risk Manager®

- Purpose:
 - ▣ Operational risk management
- Foundation workshops:
 - ▣ Enterprise Risk Management™
 - ▣ Process Risk Management™ (Value Added Auditing™)
 - ▣ Project Risk Management™
- Address:
 - ▣ <http://qualityplusengineering.com/CERM.html>

Final Thoughts

Challenge

“Global complexity is the foremost issue confronting these CEOs and their enterprises. The chief executives see a large gap between the level of complexity coming at them and their confidence that their enterprises are equipped to deal with it.”
Source: IBM 2010 Global CEO Study as quoted in May 19, 2010, Business Week.

Response

“I think we now live in an era when many of the concerns in running organizations are being reframed in terms of risk, which suggests that risk professionals are likely to rise to the top.”
Source: Harvard Business Review October, 2009

QUESTIONS?

THANK YOU FOR INVITING ME!

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