

SUPPLY CHAIN STRATEGIES & PRACTICES FOR VOLATILE CONDITIONS

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Purpose of This Session

- To gain insight into how new approaches to risk management are reshaping supply chain management
- Learn how leading organizations view/approach supply chain risk and volatility



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SCMC Overview

Supply Chain Management Center (SCMC), R.H. Smith School of Business, University of Maryland

- 15 years in existence doing research, projects, and curriculum development
- 1st academic center in U.S. devoted to an holistic business concept of SCM



X-SCM and SC Risk



- 2010: X-SCM book explores the new science of X-treme supply chain volatility management
 - Purpose: Provide new management tools for supply chain professionals in all sectors



The Landscape of Volatility

- Volatility - the last 3+ years
 - U.S. housing market collapses - consumers lose billions in equity & financial resources
 - World banking/financial system melts down; Credit dries up – NO MONEY
 - Countries face debt default
 - Fuel prices soar - then plummet
 - World thrown into recession
 - Globalization called into question
 - ‘Green’ revolution takes hold
 - Pandemics
 - Geopolitical instability, war, terrorism
 - Cyber terrorism
 - Catastrophic natural disasters



A Tipping Point

- Volatility emerges as a systemic condition; rapid - extreme oscillation becomes a constant
- Old supply chain management models begin to break down, bend under strain of the unknown, the unexpected
- Time for radical re-thinking of supply chain management models
 - Need for supply chains to flux, flex at rapid pace
 - Need for ability to sense and respond in real time



The New X-SCM Landscape

The Old Supply Chain Model

Assumptions:

- Continuous growth
- Non-stop globalization
- Constant demand inflation
- Periodic “events” to be addressed with contingency plans

Response:

- Be prepared for when stuff happened
- React – according to plan if possible
- Recover
- Wait for the next thing to happen
- Start the cycle over again
- **Expect downtime between events**



The New X-SCM Landscape

The New Supply Chain Model

Assumptions:

- Systemic volatility: suppliers, customers, economies, etc.
- Continuous oscillation – rapid and extreme
- No “down time”

Response:

- Collective, not sequential risk management
- Collaboration on a new scale – necessary to survival
- Risk management in supply chain becomes critical discipline



Example: Supplier Management

SCM

Supplier Management:

- Tier 1 critical supplier relationships make it difficult to “unlock” in times of disruption or market volatility.
- Little collaboration – transaction focus; arms’ length
- Poor visibility beyond Tier 1
- Information black holes



X-SCM

Supplier Management:

- Global process for pre-qualifying alternate core suppliers and pre-negotiating “first to buy” contracts
- Contingent supply networks – pre-approved, ready to go
- Collaboration on system-wide forecasts, production, quality assurance, innovation
- Visibility across multi-layered supplier tiers
- Collaborative quality boards, continuous improvement in product design, production, supply management



X-SCM Follow-on: IBM-Sterling-UMD study

STERLING COMMERCE WHITE PAPER

No Resting Place – Supply Chain
Volatility Never Stops



Sterling Commerce
An IBM Company

2011: New X-SCM research

- Online survey of 300 supply chain, IT & sales executives in manufacturing and 3PL sector
- 15 in-depth interviews
- A few of our findings...



Sources of Volatility Impacting SC Decisions

Sources of Volatility and Risk Impacting Supply Chain Decisions					
Net Priority	Total	Under \$500M	500M to 1B	1B to 5B	5B or more
Customer risk (loss of customer/customer volume)	46%	49%	40%	51%	45%
Demand/channel volatility	41%	51%	48%	36%	36%
Risk of slipping back into recession	36%	38%	41%	38%	36%
Business cycle/capital availability risks	21%	16%	27%	19%	21%
Social/demographic risks	9%	13%	7%	17%	2%
Environmental/eco-disruption risks	14%	3%	21%	16%	14%
Product design/quality/recall risks	24%	28%	21%	26%	23%
New product introduction risks	23%	20%	13%	22%	33%
Trading partner efficiency/stability	17%	13%	20%	9%	22%
Merger/acquisition risks	14%	15%	13%	12%	16%
Compliance/regulatory risks	24%	20%	20%	23%	31%
Disruptive technical change	15%	23%	11%	14%	12%
Emerging market risks/political instability	17%	11%	19%	17%	18%

Source: Sterling Commerce/IBM-UMD research



X-SCM Survey: Volatility Management Priorities

Top Priorities for Managing Volatility and Risk Impacting Supply Chain Decisions					
Revenue					
Attribute:	Total	Under \$500M	\$500M to \$1B	\$1B to \$5B	\$5B or more
Reduce order cycle times to customers	56%	61%	57%	57%	52%
Reduce time to market of new product introductions	55%	49%	53%	59%	56%
Accelerate globalization to open new markets & distribution channels	53%	46%	43%	58%	60%
Overcome trade barriers and inward-oriented regionalization	37%	31%	40%	41%	36%
Manage volatile demand – unexpectedly accelerating or decelerating demand	54%	62%	64%	45%	49%
Design and implement improved performance measurement systems	49%	51%	51%	43%	50%
Increase supply chain visibility & resiliency	55%	56%	57%	58%	51%
Manage supply chain slowdown of spending on product, inventory and distribution in order to conserve cash	47%	46%	54%	41%	46%
Move supply chain software applications and transactions to cloud computing to reduce computing infrastructure costs	37%	44%	36%	36%	35%
Outsource manufacturing or logistics to significantly reduce costs and increase flexibility	35%	41%	34%	39%	30%

Source: Sterling Commerce/IBM-UMD research



Additional UMD Research

How Do You Recover?

- *Discerning the Factors of Disruption Management: An Empirical Examination of Severe Events and Firm Recovery Performance*
 - University of Maryland Michigan State research study (Corsi & MacDonald)
 - Study of how firms recover from severe supply chain events



Recovery: X-SCM Propositions

Planning & rehearsing

1. Previous experiences have an effect on a decision maker's willingness to develop and maintain risk plans
2. Rehearsal of disruption recoveries is positively associated with better recovery performance
3. Use of risk plans in managing disruptions is more frequently associated with recovery efforts that have a positive performance result



Recovery: X-SCM Propositions

Discovery, communications & decision-making

4. Faster discovery and communication of supply chain disruptions are more likely associated with recovery efforts that have positive performance results
5. Non-decisions after discovery of a disruption are more likely associated with recovery efforts that have negative performance results

“Sense and respond”



Recovery: X-SCM Propositions

Leadership

6. Leadership flexibility in disruption management is more likely to be associated with recovery efforts that have positive performance results
7. Team leadership dysfunction in disruption management is more likely associated with recovery efforts that have negative performance results



Recovery: X-SCM Propositions

Financial cost

8. The greater the financial cost of the disruption, the greater the likelihood that the effort is viewed as having the opportunity to be better managed
9. Disruptions that result in the perceived cost of zero dollars are equally likely to be perceived as well managed or as having the opportunity to be better managed



X-SCM Risk Management: Key Takeaways

- New understanding of supply chain volatility management
- New risk governance models emerging
- New volatility governance structures and processes
- Results:
 - Reduced impact
 - Improved resiliency
 - Metrics and continuous learning/improvement
 - First-mover advantage
 - Strength from collaboration
 - Sense and respond capability
 - Better outcomes: financial, quality, customer, safety, mission



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Questions?

THANK YOU