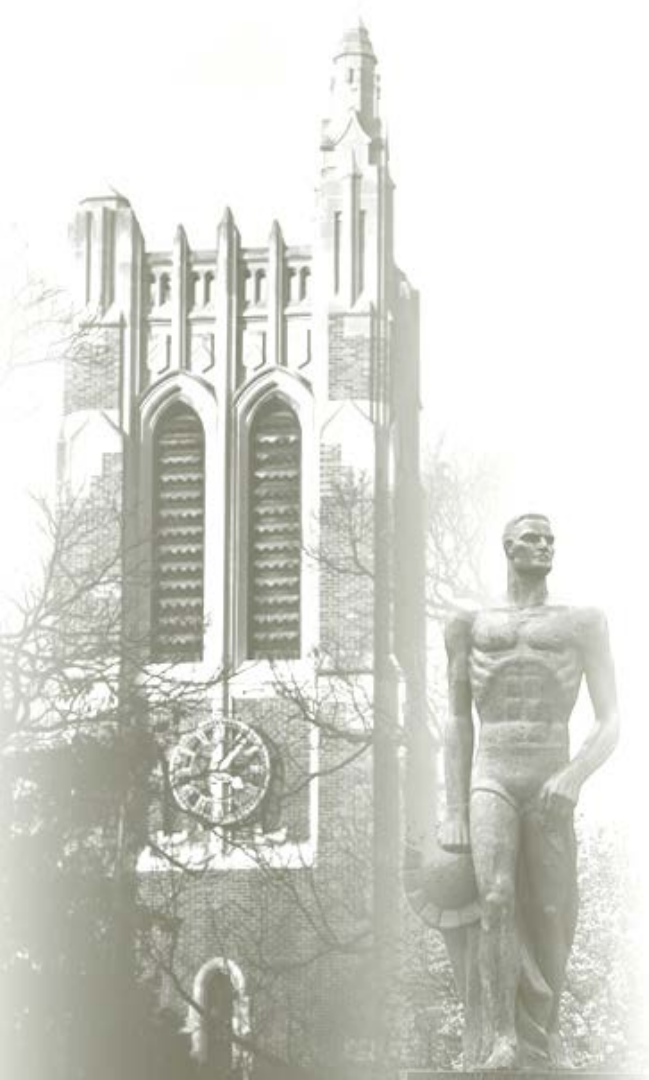


How Can You Cure Your Supply Chain Insomnia

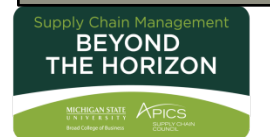
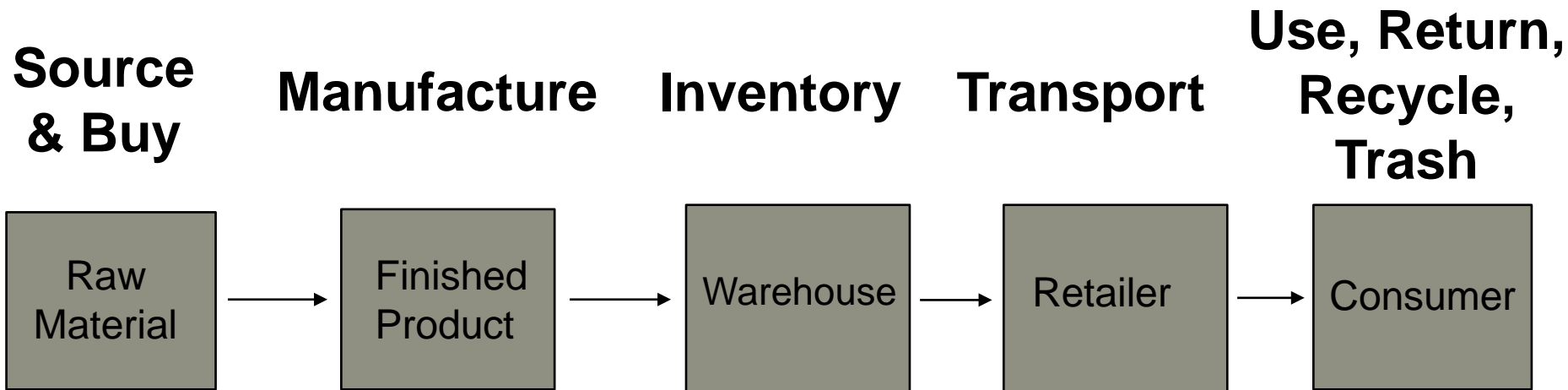
Presented to:
CN Forum
East Lansing, Michigan
October 1, 2015

Presented by:
Dr. David J. Closs
Chairperson and John McConnell Chair
Department of Supply Chain Management
Michigan State University

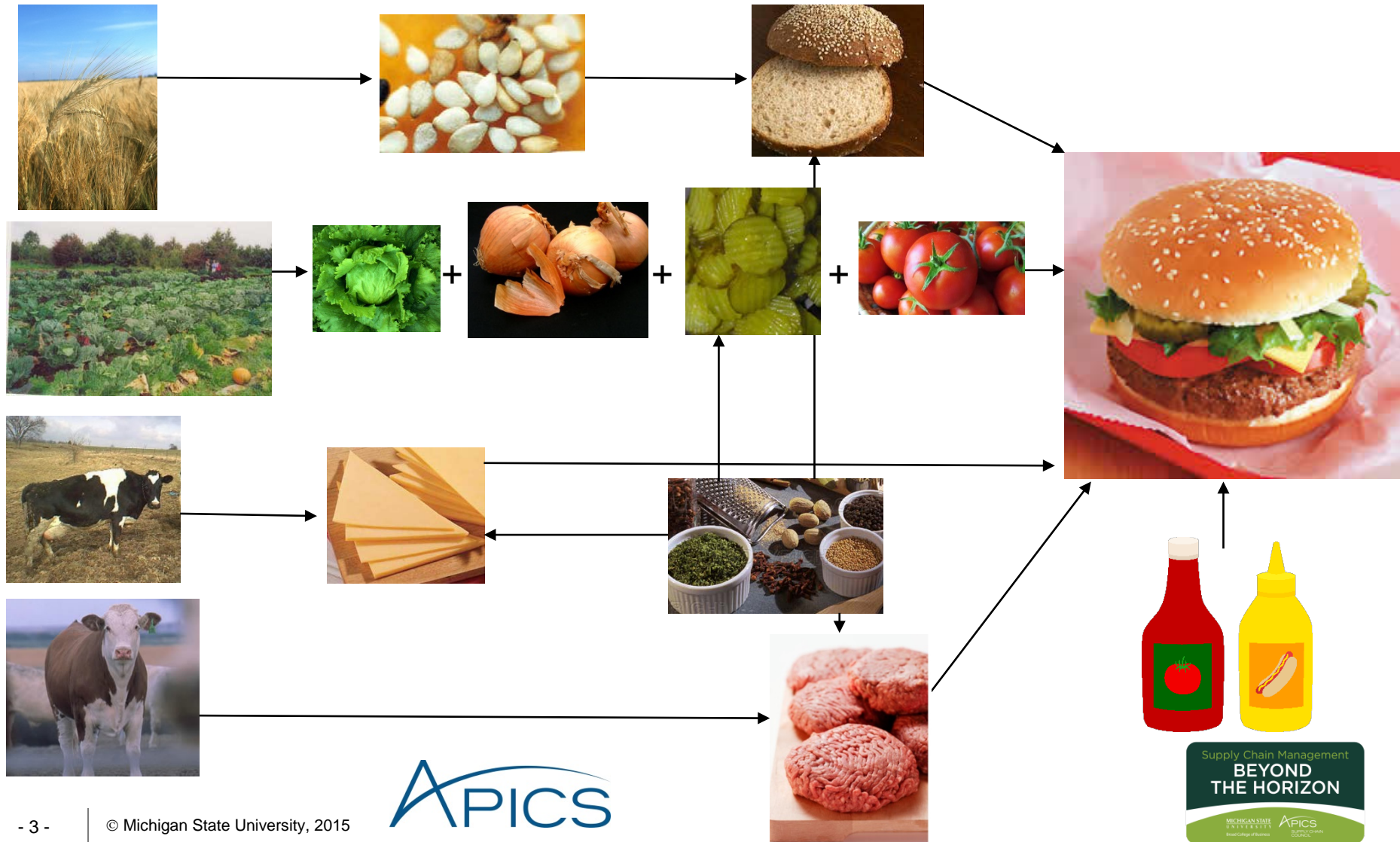


Supply Chain Management

Supply chains are the institutions and processes that move raw material, work-in-process, and finished product from the fields, mines, and oceans to our homes and work places to satisfy our daily wants and needs. Without supply chains, we would not have the products that we rely on such as food, clothing, shelter, and entertainment.



Example: Ingredients in Fast-food Hamburger



Food System Value Chain

One Burger Contains:



Bleached White Flower
 Malted Barley flour
 Thiamine
 Riboflavin
 Niacin
 Folic acid
 Reduced iron
 Water
 Corn syrup
 Sesame seeds
 Soybean oil
 Yeast
 Salt
 Calcium sulfate
 Calcium carbonate
 Calcium silicate
 And more!



Milk
 Water
 Sodium citrate
 Sodium phosphate
 Artificial color
 Acetic acid
 Enzymes
 Milkfat
 Cream
 Sorbic Acid



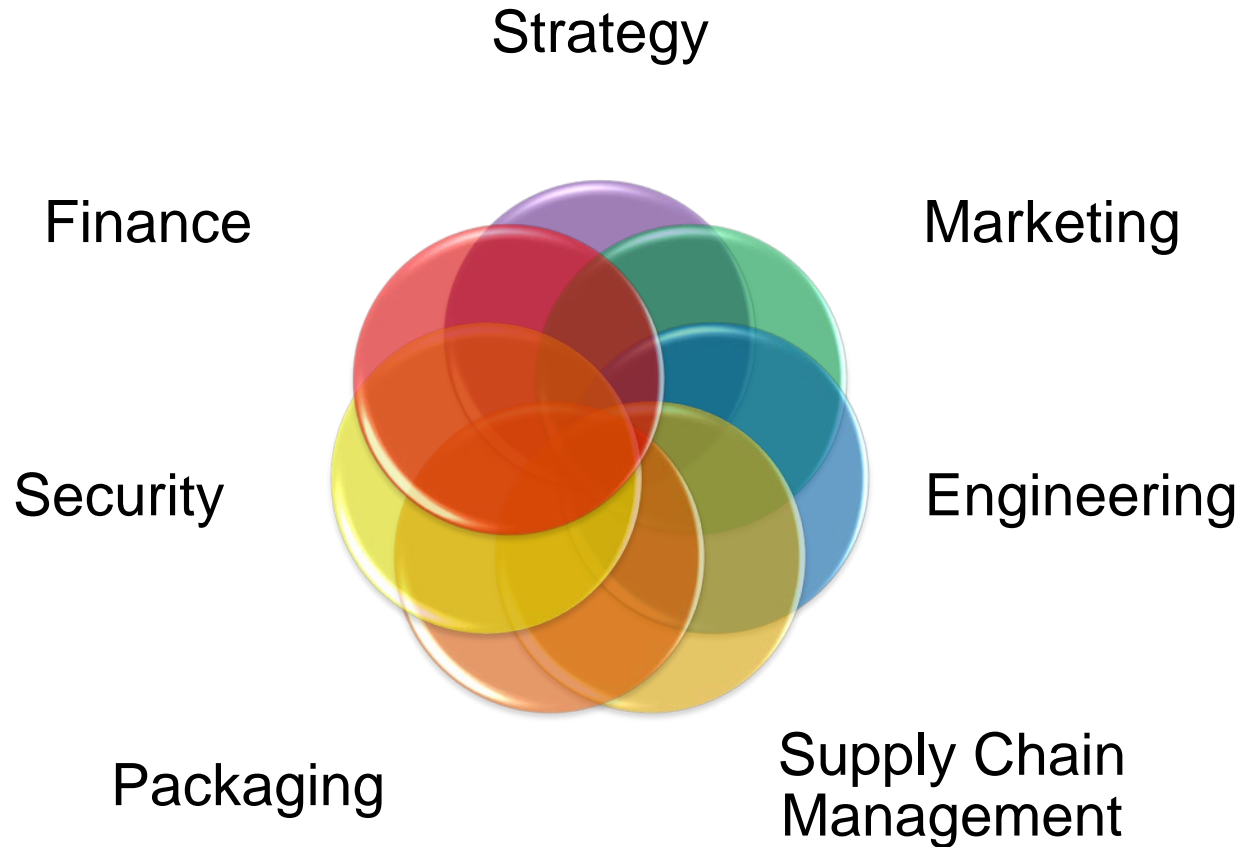
Cucumbers
 Water
 Vinegar
 Salt
 Calcium chloride
 Alum
 Natural flavors
 Polysorbate 80
 Tumeric



Soybean Oil
 Distilled Vinegar
 Egg Yolks
 Sugar
 Corn Syrup
 Spice Extractives
 Xanthan Gum
 Potassium Sorbate
 Garlic Powder
 Caramel Color

...Just to name a few –
 And all need to be transported!

New Realities of SCM



Insomnia

- Integrated solutions
- Talent and leadership
- Complexity and risk
- Threats/challenges
- Compliance
- Cost/purchasing issues

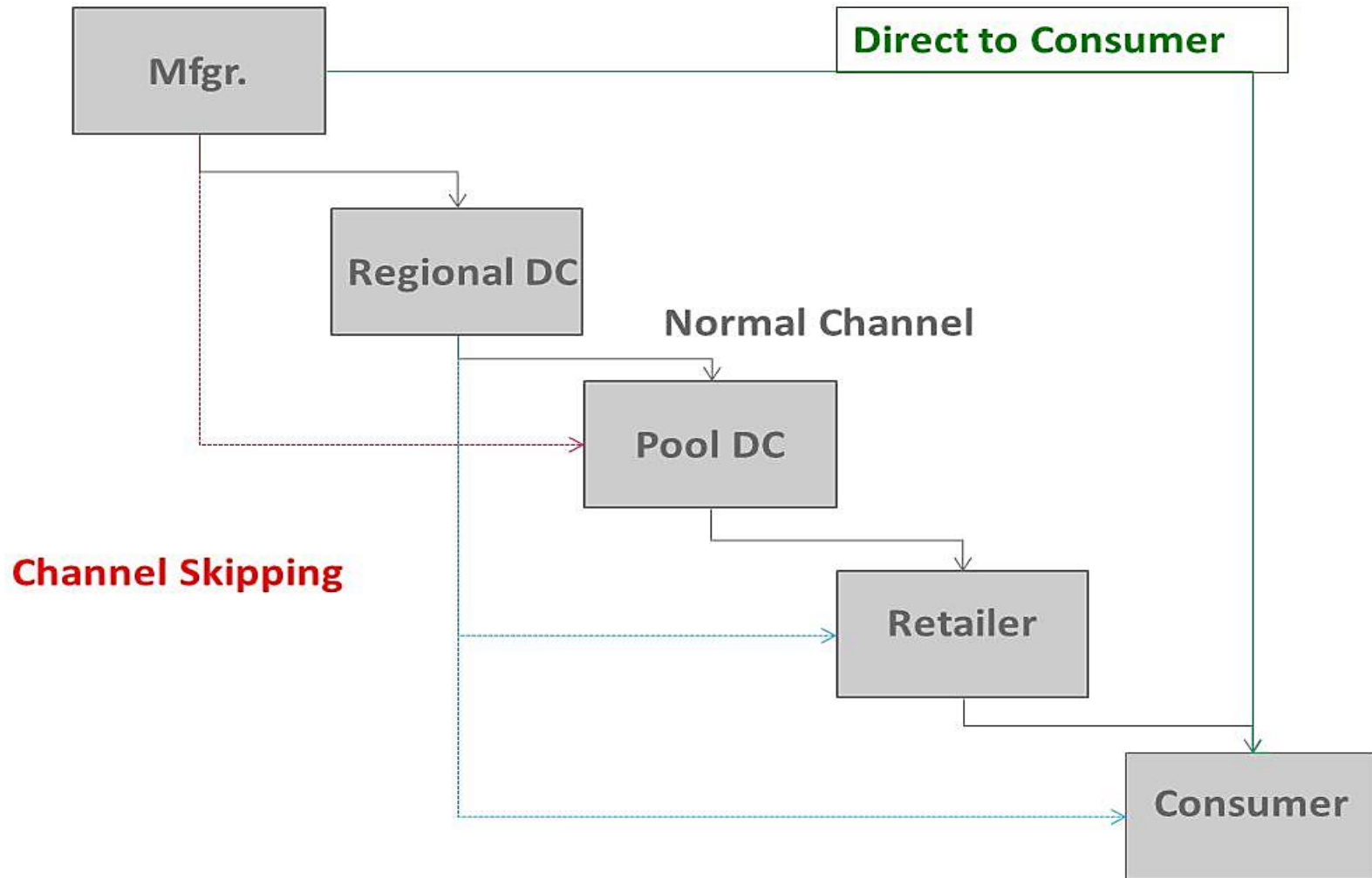


Insomnia

- **Integrated solutions**
- Talent and leadership
- Complexity and risk
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Omni Channel Supply Chain



Order Life Cycle

- Product/service/solution awareness
- Product/service/solution purchase
 - Role of information
 - Access product
- Product usage
 - Meet or exceed expectations
- Product return
 - Options available
 - Implications for customer

Vertical Integration to Virtual Integration to Flexible Network Integration

PRESENT

- VIRTUAL INTEGRATION
 - Selectively outsourcing upstream and downstream supply chain activities to maximize quality and downstream value and minimize risks and costs
 - Challenges with partner selection (complimentary visions, strategies, capabilities), cooperation and incentives

FUTURE

- FLEXIBLE NETWORK INTEGRATION
 - Selecting and engaging a dynamic constellation of partners to perform upstream and downstream supply chain activities to optimize total system value depending upon prevailing requirements
 - Improvements in virtual integration governance structures and processes, technology innovations and non-proximal additive manufacturing further reduce outsourcing risk
 - Maximize total value to customers by collaboration with multiple outsourcing partners



Insomnia

- Integrated solutions
- **Talent and leadership**
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Talent Acquisition → Talent Leadership

- Old view
 - Hire people
 - Train them
 - Hope that they stick around



- New view
 - Supply chain management – unique set of skills
 - Managing millennials
 - Need to:
 - Attract them
 - Invest in them
 - Retain them



Talent Practices Observations

- Have SCM collaborate with sales calls to understand sales demands and share expertise.
- Increased demand workings hours and locations.
- Create networking events to collaborate across functions.
- Develop talent with T shaped skills.
- Increased possibilities of part-time, contract, and flex-time talent.
- Use Centers of Excellence to embed capabilities.

Talent Conclusions

- It is increasingly important that firms become top-of-mind to students and primary suppliers.
- Firms are beginning to use different employment models as a means to develop a talent competitive advantage.
- Increase SCM collaboration with sales to understand cross-functional requirements and to provide increased value to customers.
- Increase consideration of T-shaped skills for employment acquisition and development.
- Sell the benefits of Sales & Operations Planning beyond the planners to understand the requirements for integration.

Training to Knowledge Based Development to Talent Leadership

PRESENT

- **KNOWLEDGE BASED DEVELOPMENT**
 - Recruiting, hiring, developing and retaining the best talent, in response to current and anticipated needs

FUTURE

- **TALENT LEADERSHIP**
 - Proactively sourcing and developing talent by identifying the critical range of skills needed for future success and education required to keep employees effective and involved
 - Succession planning to ensure employees are ready to step into vacated positions by retirements from baby boomer generation
 - Firms commit to in-house and external training, and educational programs
 - Flexible approaches for talent retention are needed to retain top employees

Insomnia

- Integrated solutions
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Complexity and Risk

- Must recognize the realities of supply chain management.
 - No business solution is ever permanent.
 - Competitive actions
 - Technological changes
 - Changing customer expectations
 - Environmental changes
 - It takes time to change systems!

Complexity Avoidance → Complexity Guidance

- Effectively managing complexity is a capability that is necessary to better serve customers.
- Complexity cannot and should not be avoided.
- It must be mastered.
- The Key is to identify meaningful complexity.

Example: Personalization of vehicles



Strategies to Reduce Risk

- Simplification, standardization, and growth
 - Reduce complexity so firm can manage growth.
- Reduce complexity
 - Reduced SKUs, operating units, and production threads
 - Standardize “point of view”
- Scalability
 - Operations infrastructure can’t be allowed to restrict growth.
- Diversification
 - Markets/industries.
 - Customers.
- Greater reliance on automation
 - In anticipation of labor shortages and for cost reduction.

Risk Agnostic to Risk Management to Risk Prognosis

PRESENT

- RISK MANAGEMENT
 - Instituting formalized processes to dynamically identify, prioritize, and mitigate supply chain risk based on probable likelihood of occurrence
 - 9/11 showed risk management is operational and financial concept

FUTURE

- RISK PROGNOSIS
 - Instituting formalized processes to reduce or eliminate supply chain risk prior to its occurrence based on business intelligence
 - Designing supply chains that exclude risk factors
 - Incorporated in expanded total cost-to-serve models
 - Supply chain value creation decisions based on the risk profiles calculated for entire expected supply chains

Insomnia

- Integrated solutions
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How do many managers view SCM?



- Boeing 787 delayed again
 - Suppliers blamed
- How the Supply Chain stole Christmas
 - Mattel orders massive recall due to supplier problems (Nov. 2007)
- Japan, tsunamis and the iPad
 - NBR March 24, 2011
- 2013 Holiday deliveries blamed on carriers

- Sustainability
 - Social responsibility
 - Environmental considerations
 - Resource scarcity
- Identify and focus on
 - Customers of choice
 - Suppliers of choice
- Profitability
 - Consider social, environmental, and economic outcomes
 - Plus proactively seek improvements/ better outcomes.



Untenability to Sustainability to Prostainability

PRESENT

- SUSTAINABILITY
 - Designing supply chains that consider trade-offs between social responsibility, environmentalism and economics in achieving outcomes
 - Less stiff requirements for firms outside Europe leading to sustainability only being an issue for discussion, but not yet for action

FUTURE

- PROSTAINABILITY
 - Designing supply chains that actively seek to improve social, environmental and economic outcomes---Not just a company project
 - Incorporate into organizational DNA (Combining social and environmental goals with economic objectives not only will provide market benefits, but positive financial returns)

Insomnia

- Integrated solutions
- Talent and leadership
- Complexity and risk
- Threats/challenges
- **Compliance**
- Cost/purchasing issues



Compliance

- Regulatory constraints
 - Environmental
 - Water
 - Labor
- Wage dynamics
- Duties and taxes
- Market restrictions
- Security requirements

Local Optimization to Global Optimization to Glocal Optimization

PRESENT

- GLOBAL OPTIMIZATION
 - Positioning supply chain activities and processes globally to optimize functional performance
 - Sparked by changes to trade laws and expansion of internet

FUTURE

- GLOCAL OPTIMIZATION
 - Positioning supply chain activities and processes to optimize total system performance across multiple demand centers
 - High complexity including higher inventory levels and increased cycle times
 - Scare of The Great Recession from 2008-2010 (security concerns, product quality, limited access to third party providers) could lead to some elements of supply chain decentralized to regional levels
 - Segmentation approach

Insomnia

- Integrated solutions
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- **Cost/purchasing issues**



- Corporate decisions vs. supply chain decisions
- Supply base management
- Total costs must be considered
 - Total operating costs not just supply chain costs
 - Taxes and duties
 - Wage rates
 - Commodity price trends and availability

Functional Measurement to Customer Service Measurement to Relevant Value Measurement

PRESENT

- CUSTOMER SERVICE MEASUREMENT
 - Measuring operational performance based upon the profitability of key customer segments through specific indicators

FUTURE

- RELEVANT VALUE MEASUREMENT
 - Measuring operational performance based upon the creation of value for customers of choice and supply chain entities
 - Key focus on critical data, correct metrics, and long term goals
 - Not enough to focus on internal firm success (longer term and external focus required)
 - Consideration must also be given to supporting customers

Conclusions

- Integrated solutions
 - Consumer focused solutions
- Talent and leadership
 - Proactive leadership development
- Complexity and risk
 - Meaningful complexity
- Threats/challenges
 - Prioritize risks
- Compliance
 - Integrated perspective
- Cost/purchasing issues
 - Total system perspective



Interested in Participating

- Contact us at:
msu_scm_research@broad.msu.edu
- Participation
 - Surveys
 - Case studies
 - Focus groups