

Supply chain risk management

Course overview

By Thomas K. Dasaklis

- Lectures

- Introduction to supply chain management

- Supply chain risk management

- Essays

- Essay topics

- Guide to essay writing

- Lab course



Supply chain management

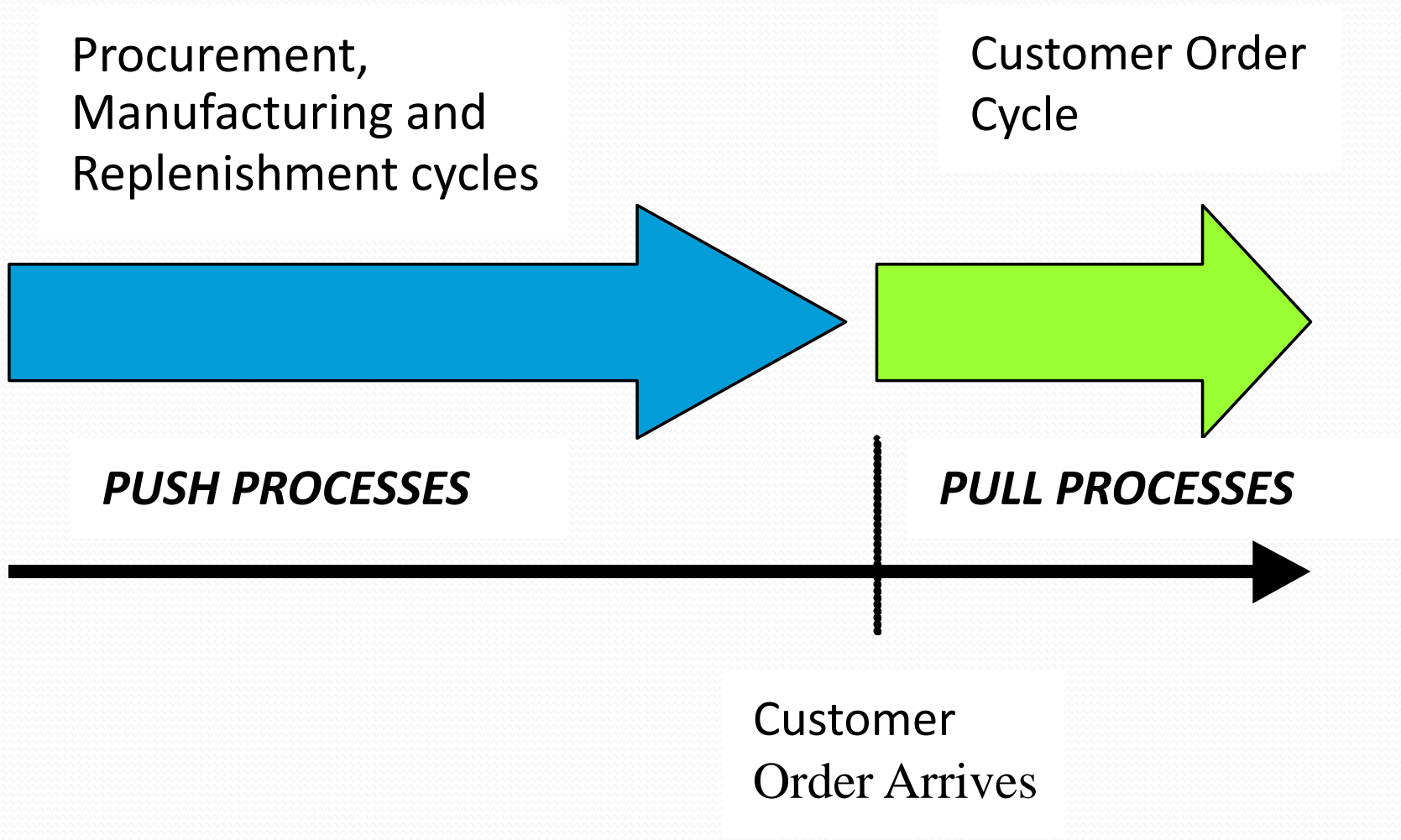
- Introduction to supply chain management
- Supply chain performance: achieving strategic fit and scope
- Supply chain drivers and metrics



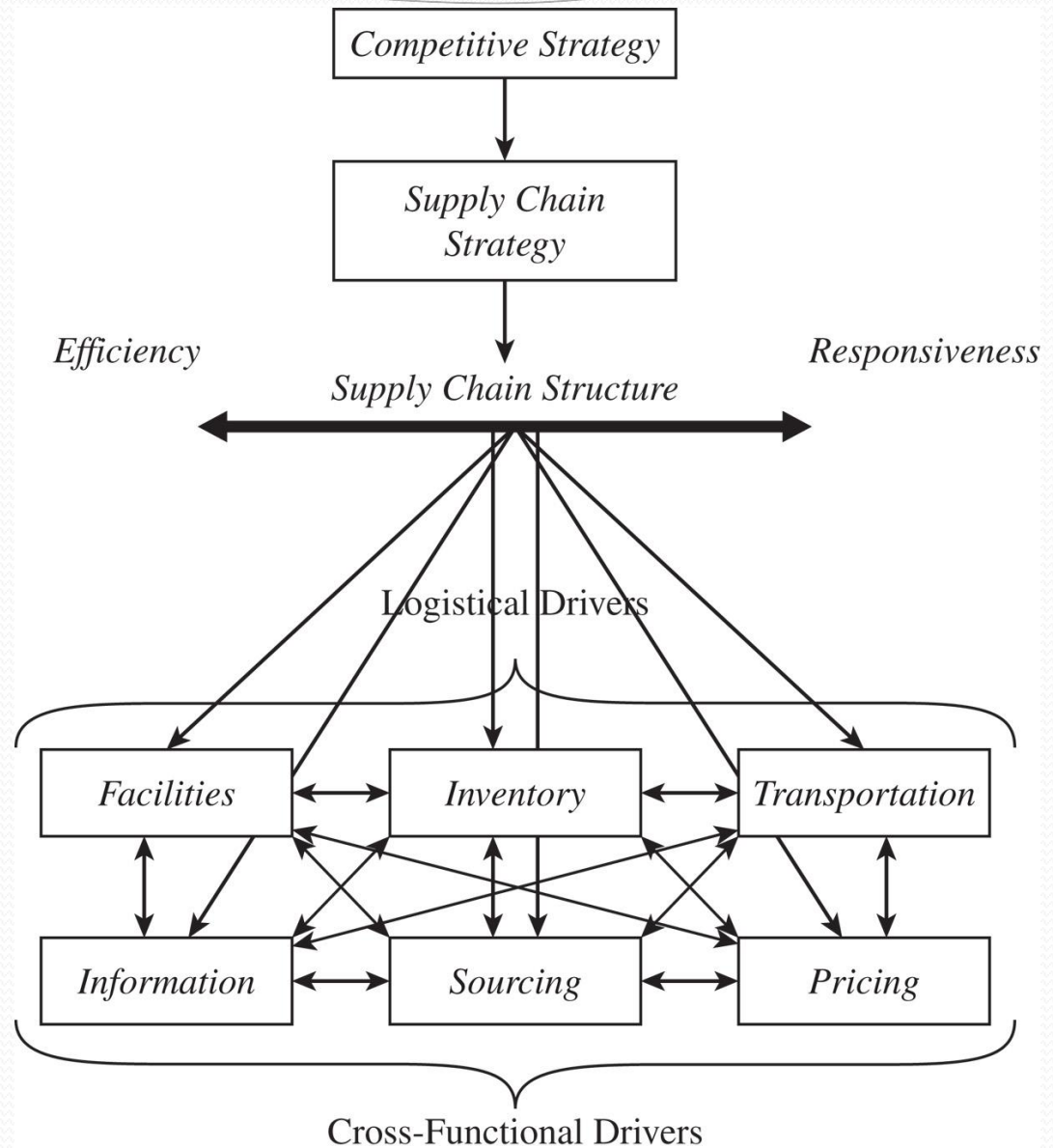
Case studies



Push/Pull View of Supply Chains



A Framework for Structuring Drivers



Achieving Strategic Fit

- Understanding the Customer

- Lot size
- Response time
- Service level
- Product variety
- Price
- Innovation

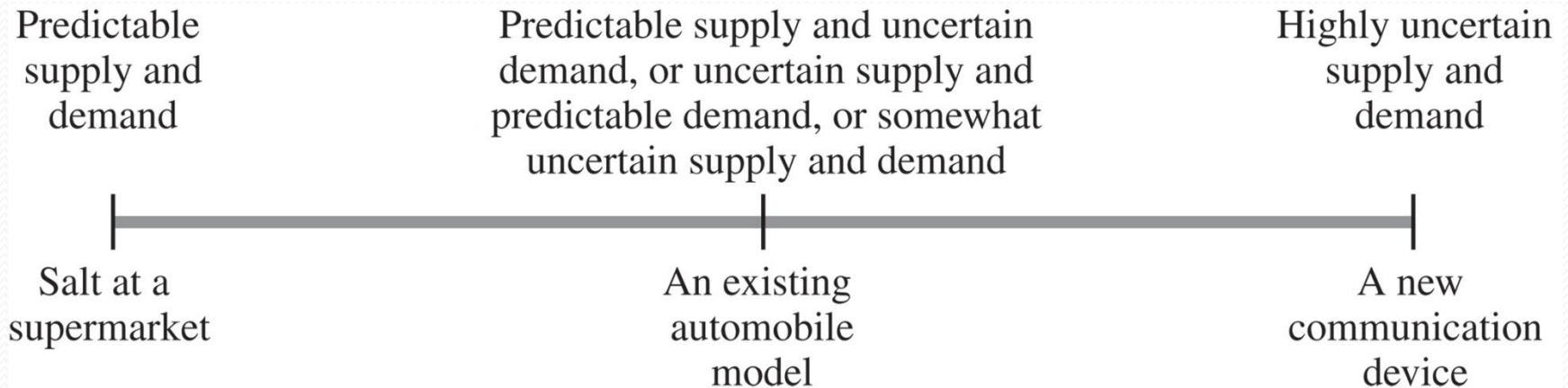


*Implied
Demand
Uncertainty*

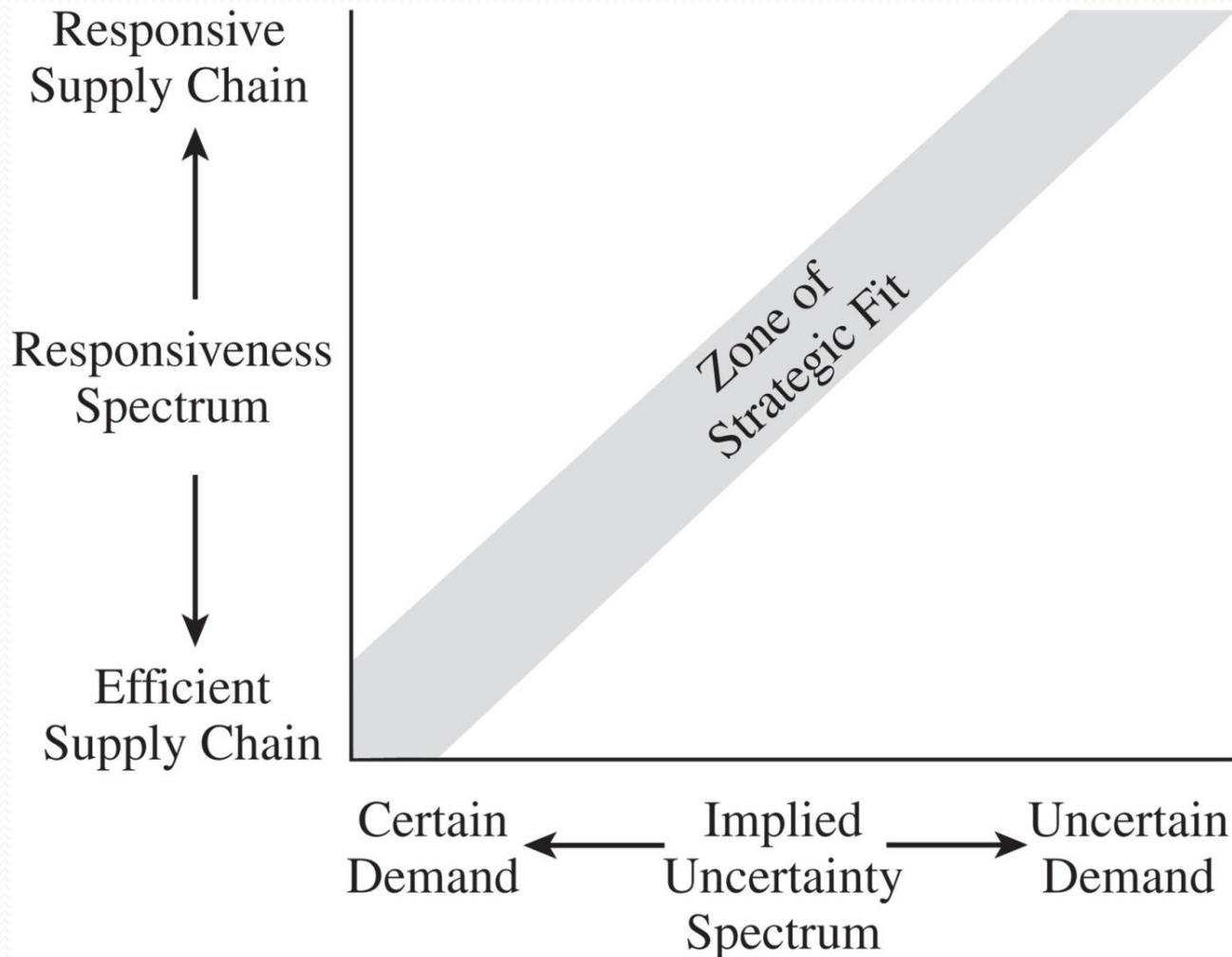
Customer Needs and Implied Demand Uncertainty

Customer Need	Causes Implied Demand Uncertainty to ...
Range of quantity required increases	Increase because a wider range of the quantity required implies greater variance in demand
Lead time decreases	Increase because there is less time in which to react to orders
Variety of products required increases	Increase because demand per product becomes more disaggregate
Number of channels through which product may be acquired increases	Increase because the total customer demand is now disaggregated over more channels
Rate of innovation increases	Increase because new products tend to have more uncertain demand
Required service level increases	Increase because the firm now has to handle unusual surges in demand

Levels of Implied Demand Uncertainty



- There **is no** supply chain strategy that is always right
- There **is** a right supply chain strategy for a given competitive strategy



Supply chain risk management

- Introduction to supply chain risk management
- Risk in global supply chain networks
- Sourcing risks
- Supply chain network design and risk management
- Managing variability in supply and demand
- Transportation risk management
- Managing financial risk in supply chain networks
- Information Technology risks
- Environmental risks
- Intellectual property loss risks
- Legal risks/litigations
- Reputational risks



Introduction to supply chain risk management

- Risk and Risk Management (definitions)
- From Risk Management to Supply Chain Risk Management
- Risk identification across the Supply Chain
- Managing risk in the supply chain
- Measuring Risk in the supply chain
- Best practices

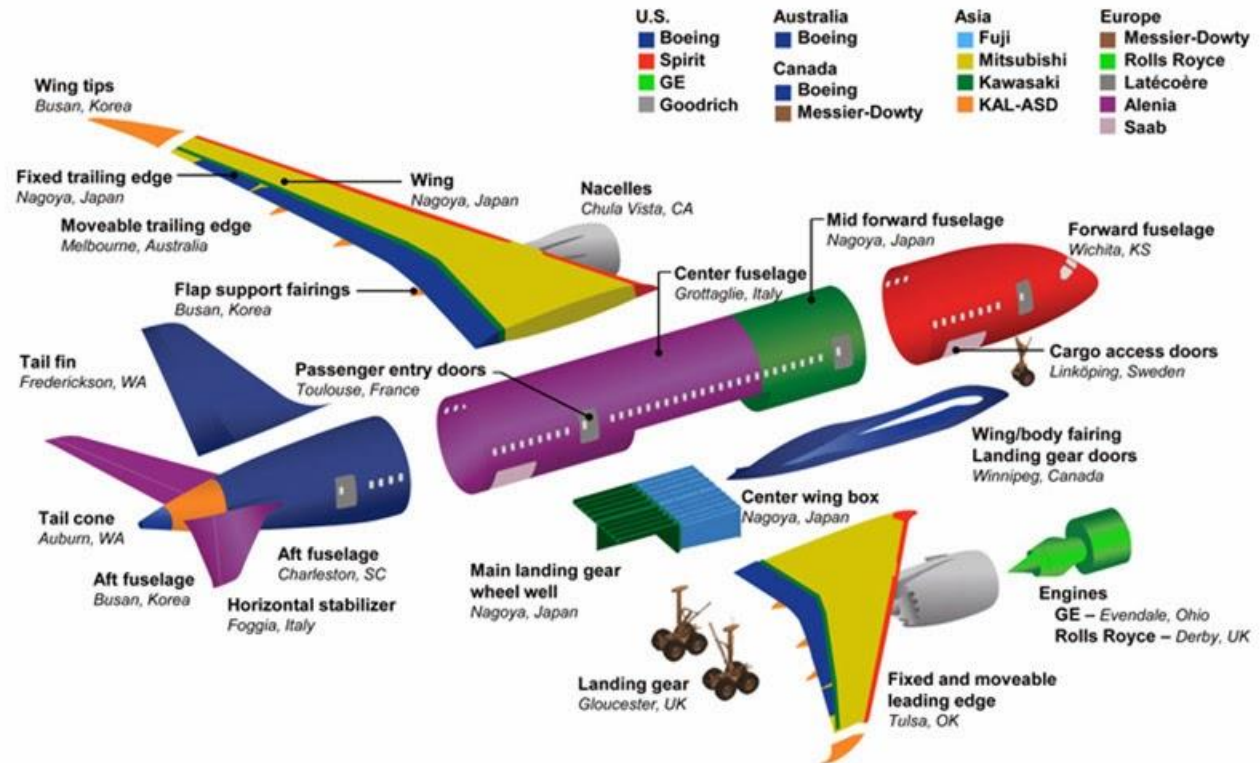


Introduction to supply chain risk management

Boeing's supply chain (Boeing 2013).

- The 787 alone has about 2.3 million parts (only some parts, like the fuselage, are built by Boeing)
- Other components are contracted out for a supplier to build.
- Boeing has a relationship with 5,400 supplier factories, including sub-tier suppliers
- More than 750 million components and assemblies were procured in 2012
- 500,000 people are employed through the Boeing supply chain

Global Partners Bring the 787 Together



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Managing risk in global supply chain networks

- Risk in global supply chain networks
- Managing risk in global supply chain networks
- Best practices

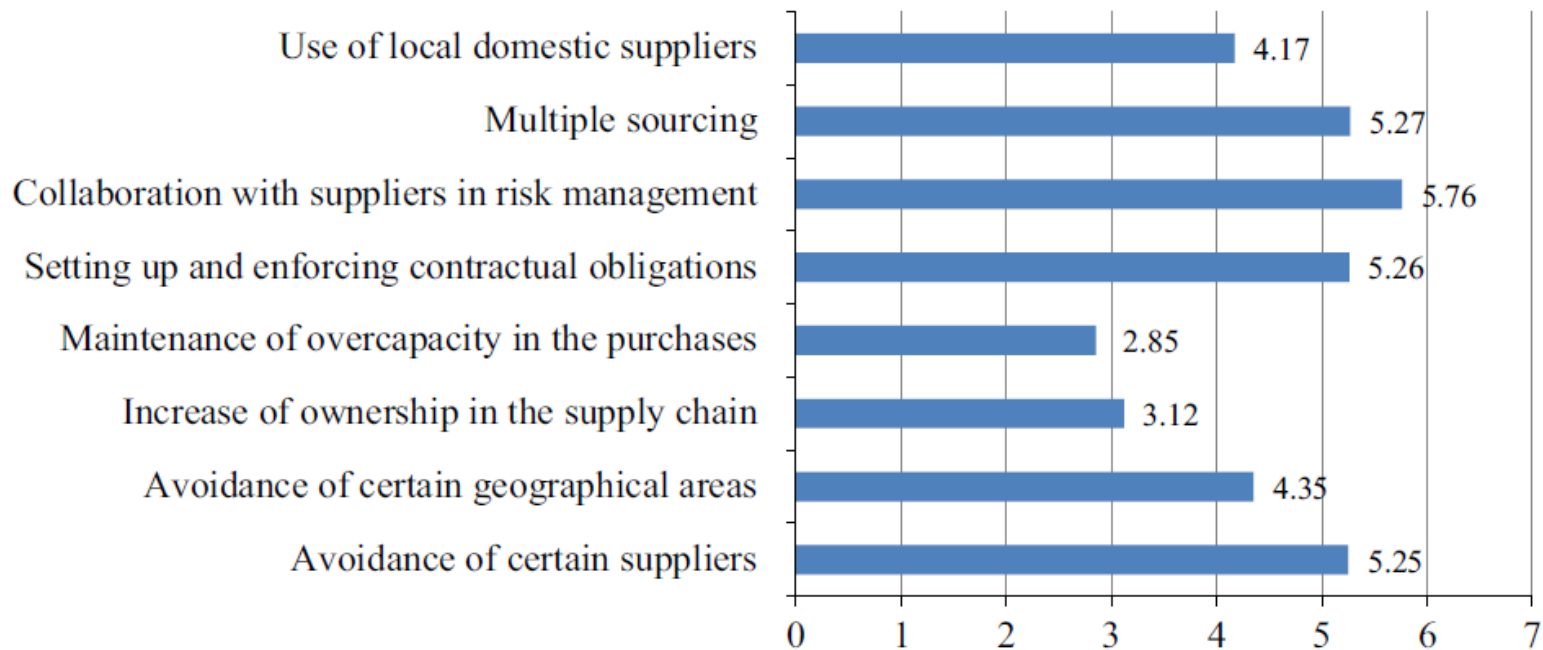


Sourcing risks

- Sourcing decisions in supply chain management
- Risk and sourcing decisions
- Managing sourcing risk
- Best practices



Managing sourcing risk



Empirical survey (Hallikas and Lintukangas 2016)



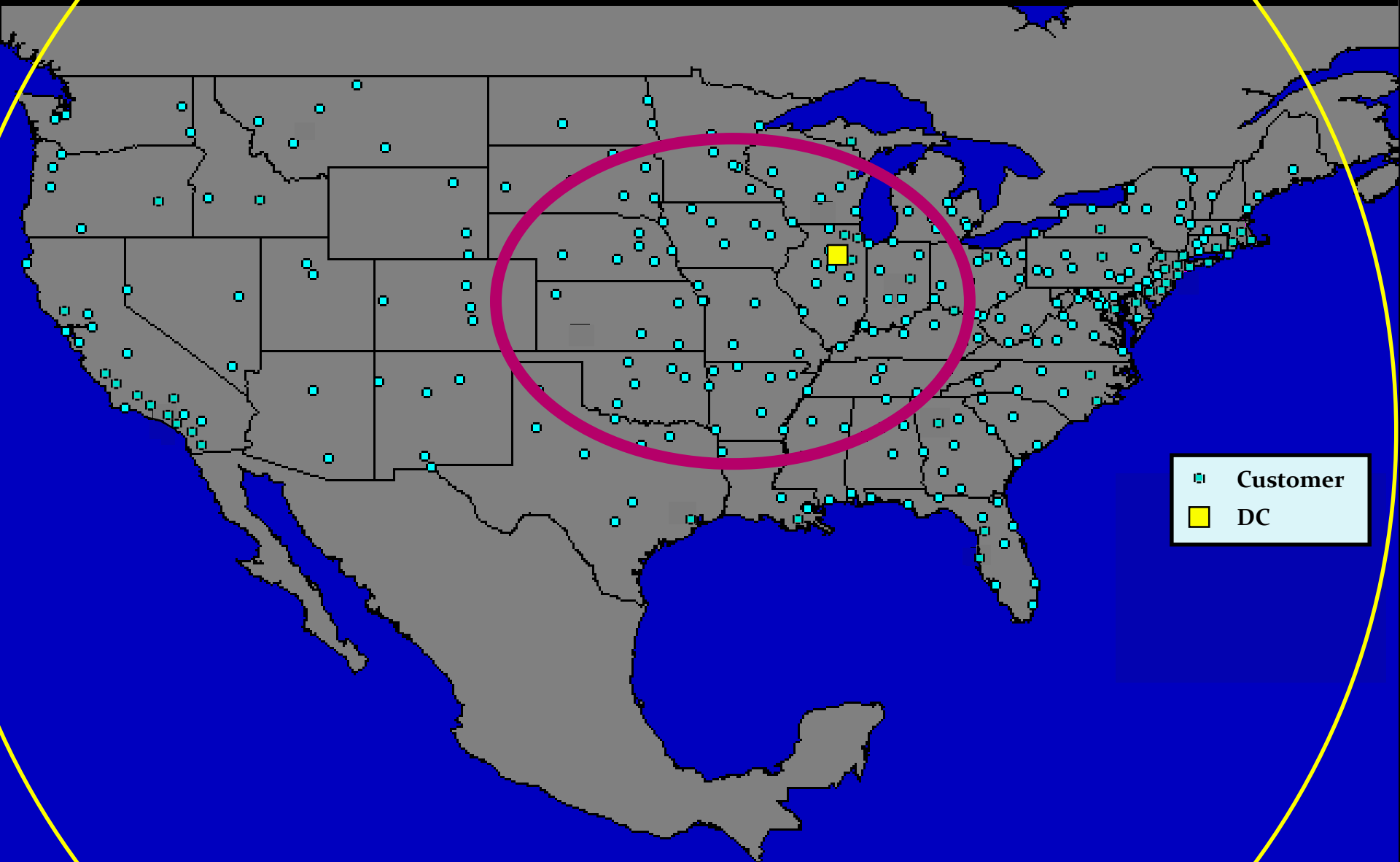
Supply chain network design and risk management

- Supply chain network design principles
- Risk management aspects during the phase of logistics network design
- Supply chain resilience
- Best practices

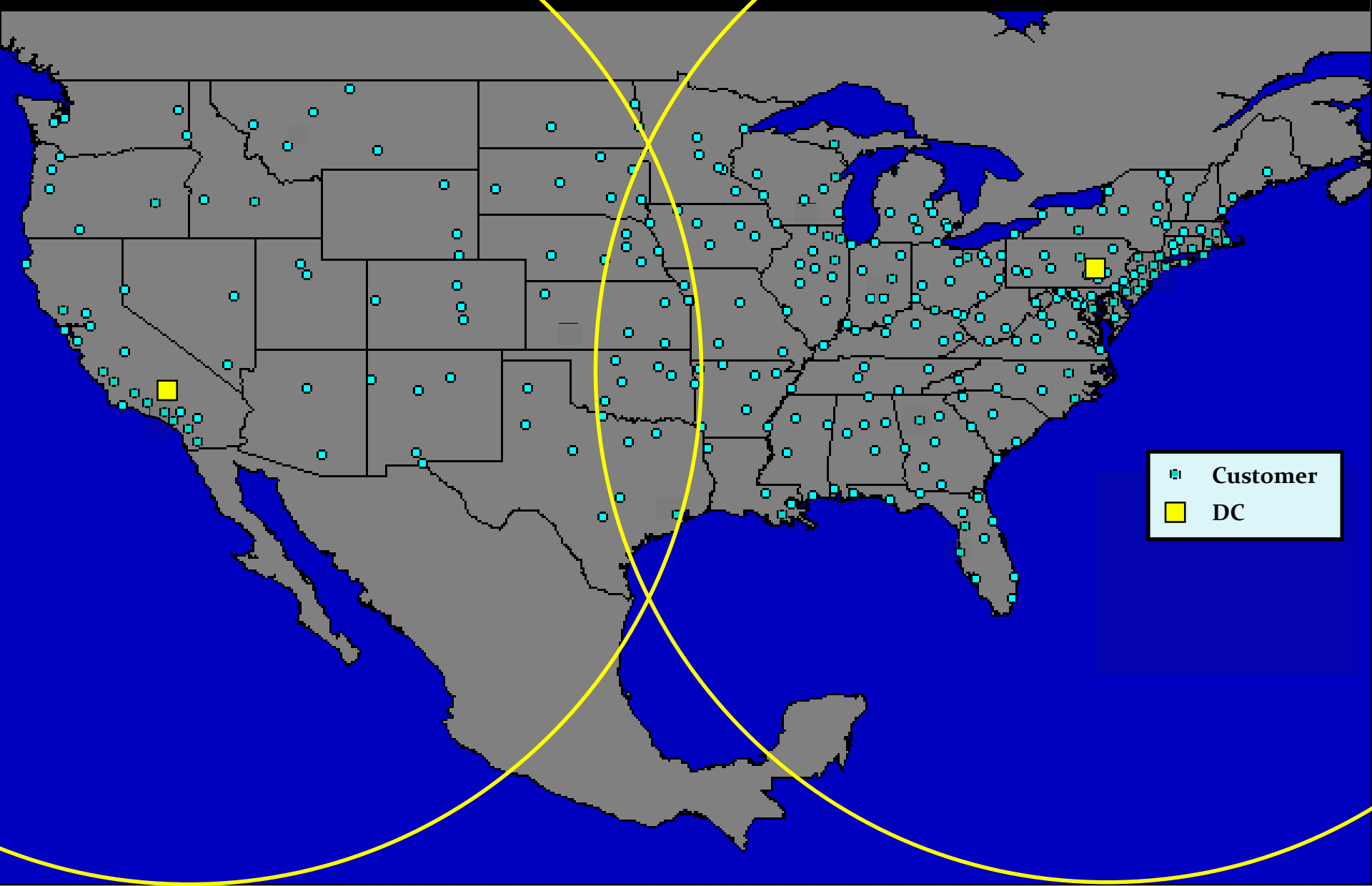


Where inventory needs to be for a one week order response time - typical results -->

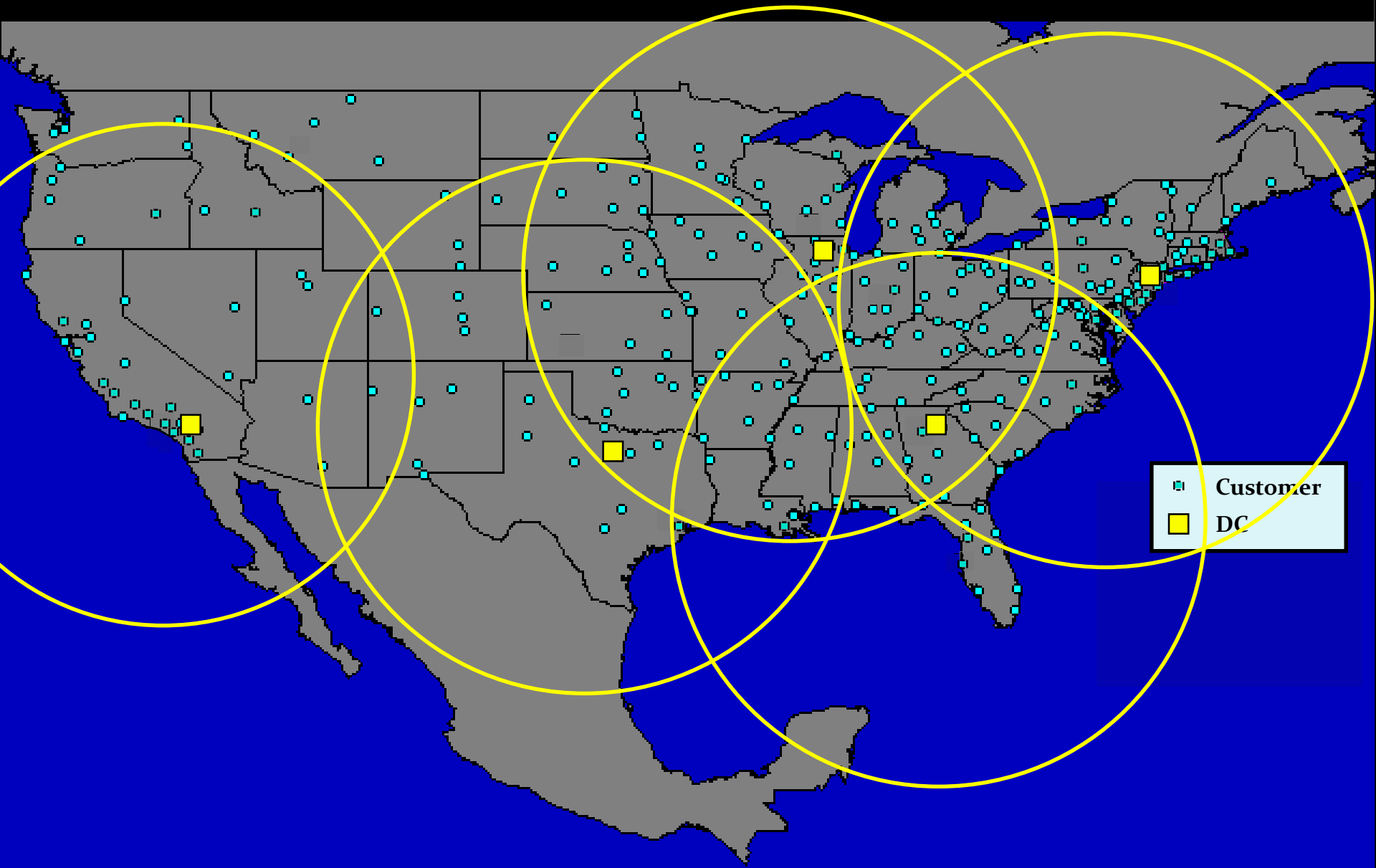
1 DC



Where inventory needs to be for a 5 day order response time - typical results --> 2 DCs



Where inventory needs to be for a 3 day order response time - typical results --> 5 DCs

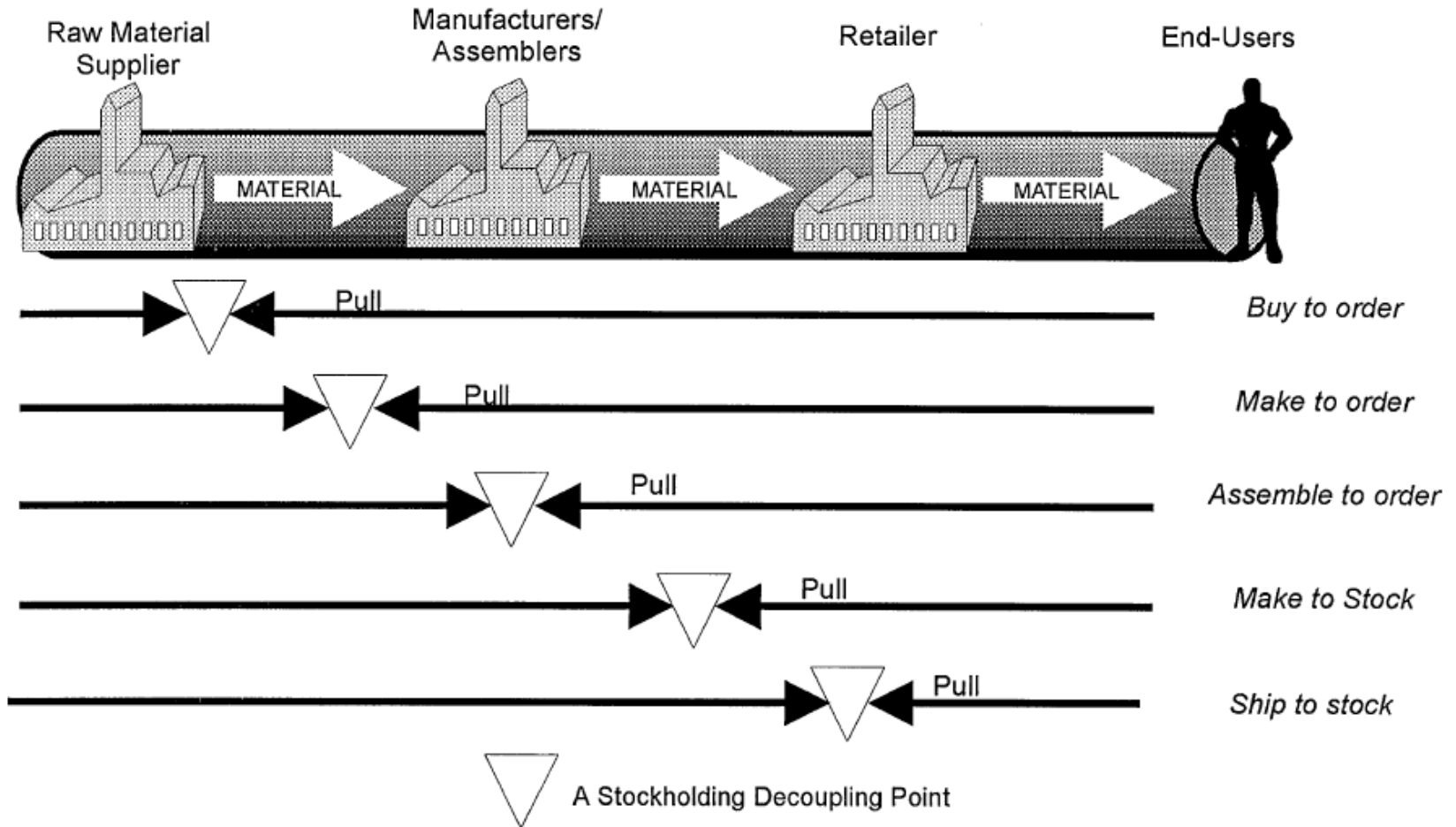


Managing variability in supply and demand

- Responding to Predictable Variability in a Supply Chain
- Inventory/Capacity Trade-off
- Demand volatility
- Postponement strategy
- Best practices



Managing risk in global supply chain networks: postponement

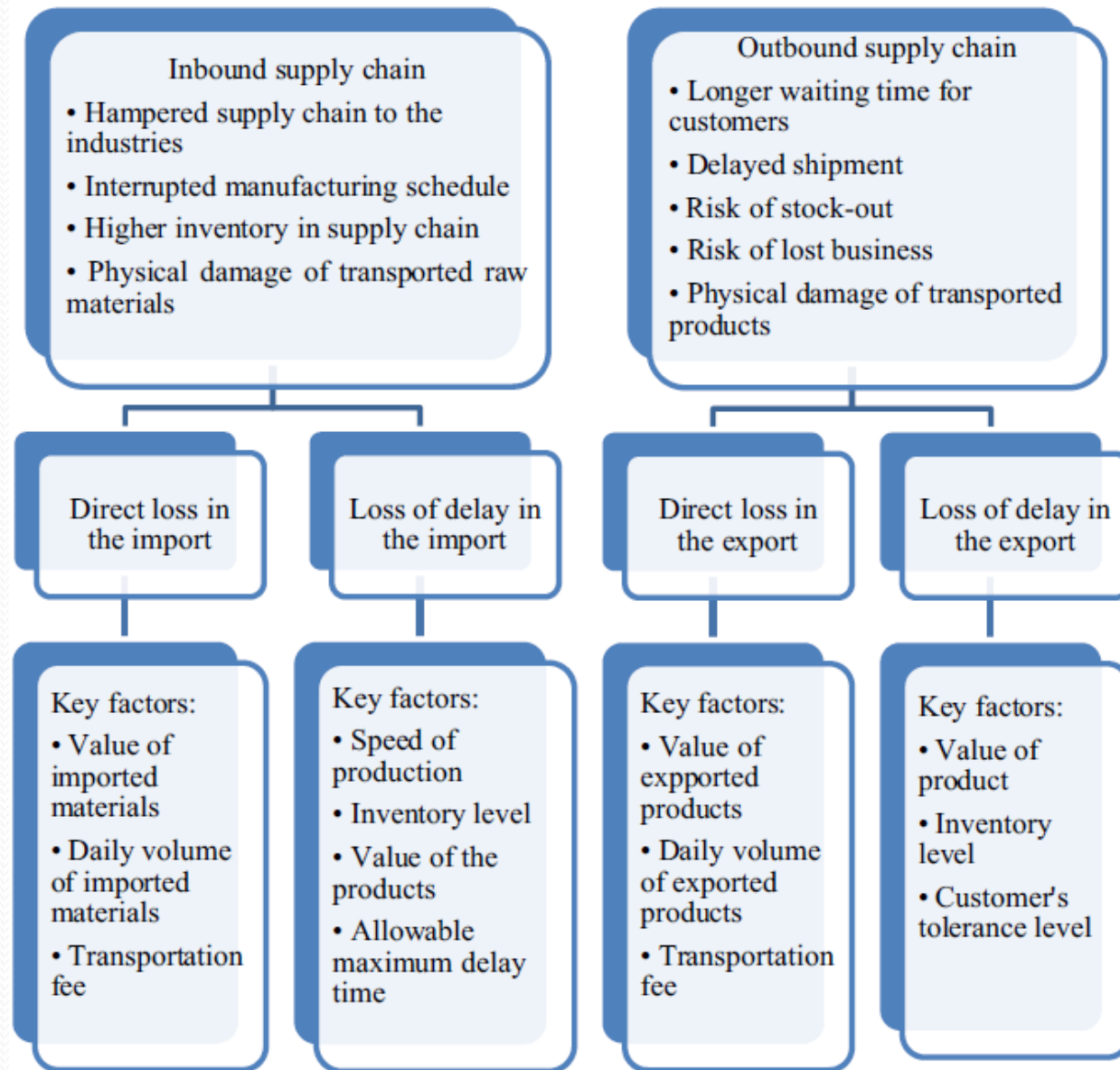


Transportation risk management

- Modes of Transportation and their Performance Characteristics
- Design Options for a Transportation Network
- Managing risks in transportation
- Best practices



Risk Management in Transportation: delays



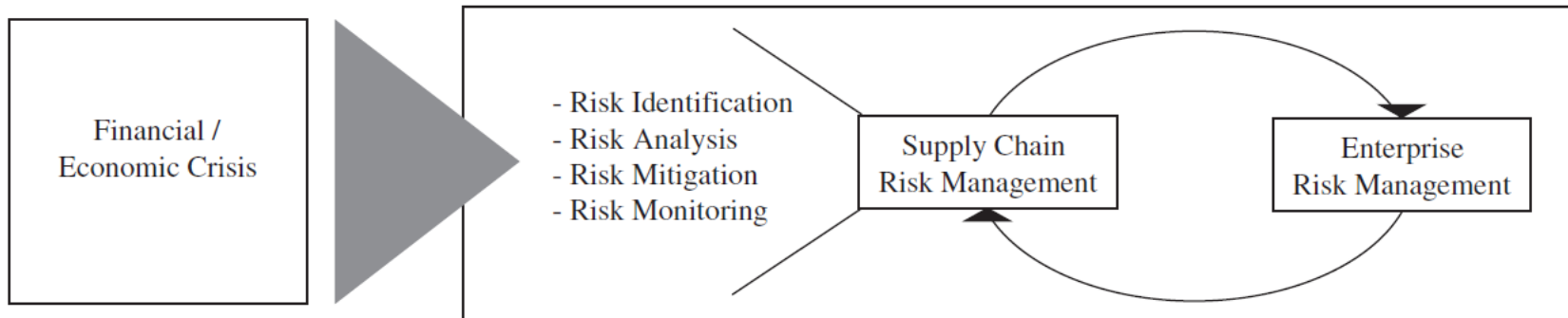
(Zhang and Lam 2016)

Managing financial risk in supply chain networks

- Pricing and revenue management in supply chain
- Financial risks in supply chain networks
- Managing financial risk in supply chains
- Case study: Hanjin's Bankruptcy
- Best practices



Managing financial risk in supply chains



- Supply chain coordination
- Manufacturing firms have adjusted their SCRM to a larger extent in the financial crisis.
- One can observe that service firms are mainly influenced by the financial crisis on the demand side, whereas manufacturing firms are affected by the demand and the supply side (Blome and Schoenherr 2011)



Case study: Impact of Hanjin Bankruptcy

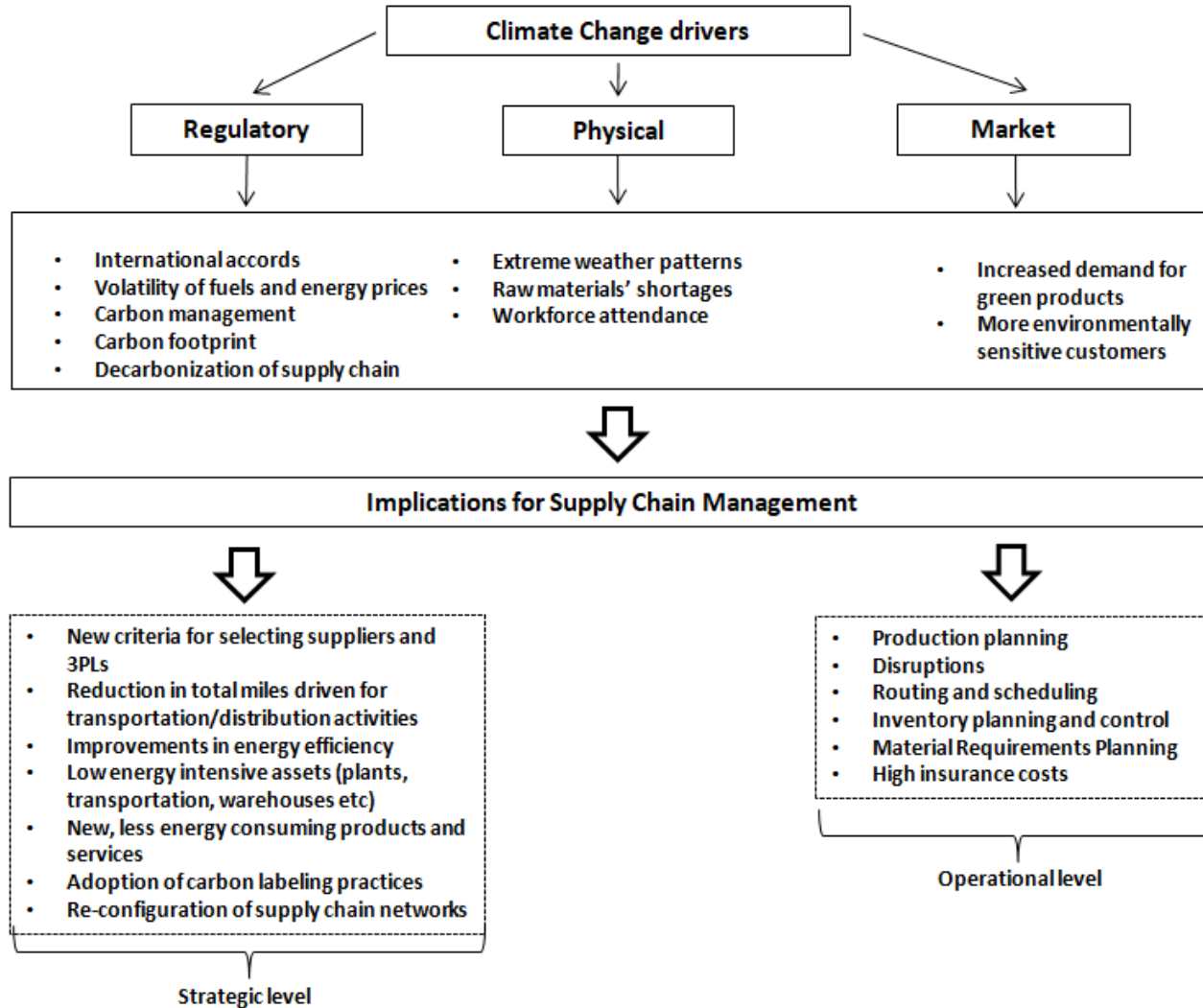


Managing information technology risks in supply chain networks

- Analyzing cyber security threats in supply chains
- Sectors most vulnerable to IT risks
- Security guidelines for mitigating cyber security risks in supply chain networks
- Use of new technologies (blockchain)
- Best practices



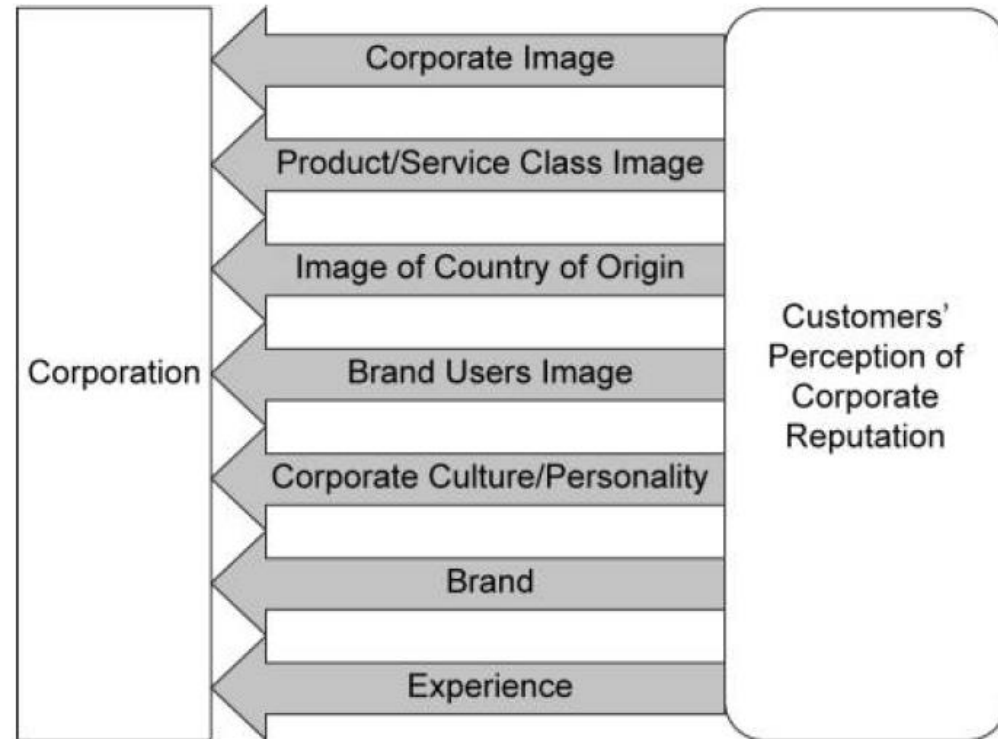
Managing environmental risks in supply chain networks



Reputational risks

Corporate image is an important factor in the success or failure of virtually all major organizations. In particular, corporate reputation is the synthesis of many factors (Worcester 2009):

- the brand(s) image
- the products (and/or services) class image(s)
- the brand user(s) image
- the image of the country of perceived ownership of a corporation, and the corporate culture/personality



Source: (Lemke and Petersen 2013)

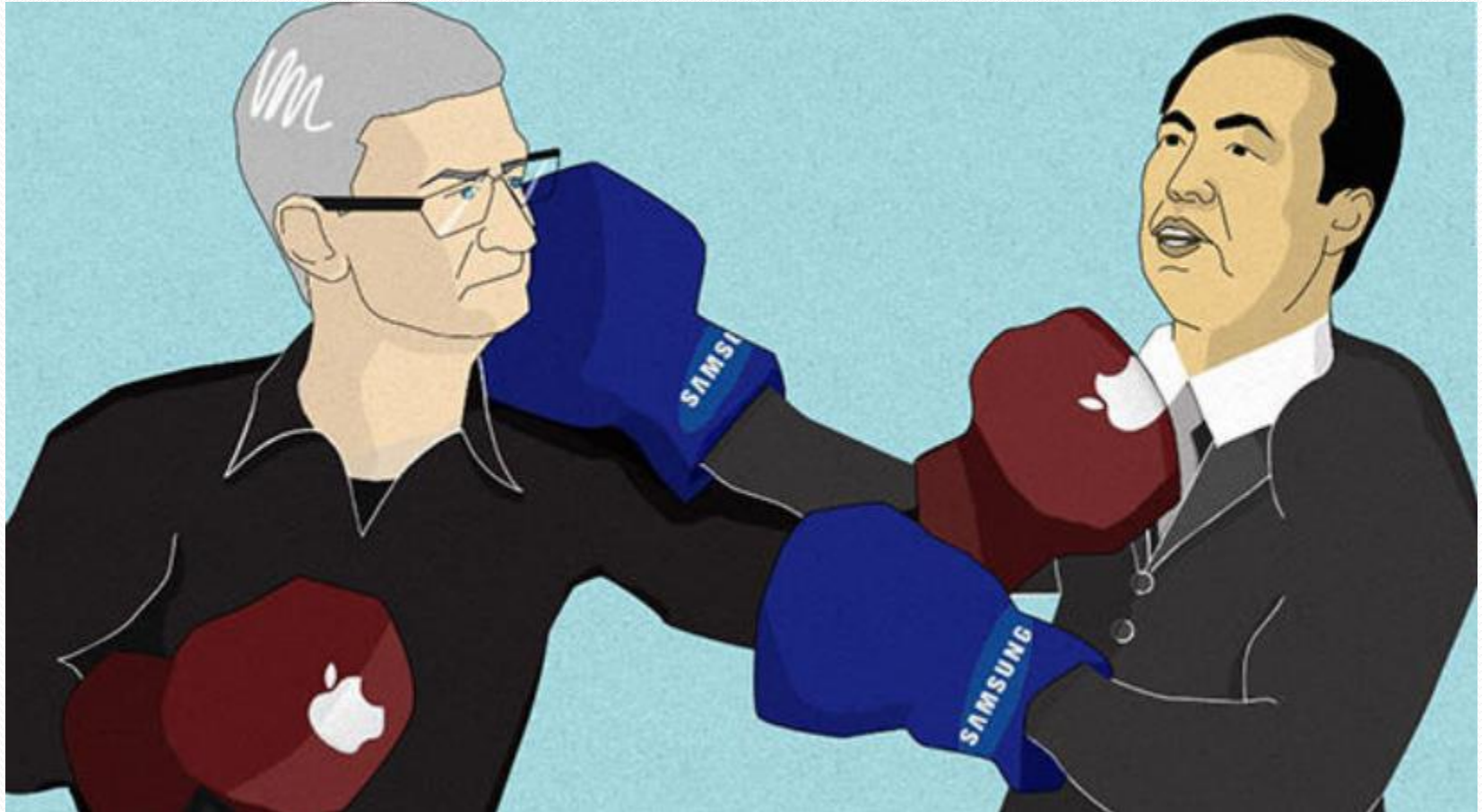


Intellectual property loss risks

- IP is the lifeblood of many companies and, increasingly, the key to competitiveness. But, in a global economy where doing business means working with diverse partners and using digitized information, IP is increasingly vulnerable to theft and infringement whether or not it is intentional.
- IP infringement can not only lead to health and safety risks for consumers, impact corporate reputations and diminish competitiveness, it can also have bottom-line impacts.
- More than €26 billion and up to 363,000 jobs lost every year in the EU due to counterfeiting of clothes, shoes and accessories.



Legal/litigation risks



Guide to essay writing

- Εργασίες 3-4 ατόμων
- Δομή
- Έκταση, γλώσσα εργασίας και μορφοποίηση
- Προθεσμία υποβολής
- Παρουσίαση
- Βαθμολογία: Γραπτή εξέταση (60%), Εργασία (30%) και παρουσίαση της (10%)

Κριτήρια Βαθμολόγησης Εργασίας:

- Ανάλυση – τεκμηρίωση - πληρότητα ανάπτυξης και παρουσίασης του θέματος (70%)
- Κατανόηση (10%)
- Σαφήνεια- Έκφραση (10%)
- Παρουσίαση (10%)



Essay topics

- Διαταραχές (disruptions) στην Εφοδιαστική Αλυσίδα και σχετικές προσεγγίσεις διαχείρισης τους.
- Η μετάθεση παραγωγής ως στρατηγική Διαχείρισης Κινδύνου στην Εφοδιαστική Αλυσίδα.
- Παγκοσμιοποιημένες προμήθειες και Διαχείριση Κινδύνου.
- Διαχείριση Κινδύνου και αξιολόγηση προμηθευτών.
- Διαχείριση οικονομικών Κινδύνων στην Εφοδιαστική Αλυσίδα: η περίπτωση χρεοκοπίας της Hanjin Shipping.
- Στρατηγικές Διαχείρισης Κινδύνου σε παγκοσμιοποιημένες εφοδιαστικές αλυσίδες.



Essay topics

- Διαχείριση Κινδύνου και σύγχρονες Στρατηγικές στην Εφοδιαστική Αλυσίδα (lean, agile, leagile).
- Διαχείριση Κινδύνου και σχεδιασμός Εφοδιαστικών Αλυσίδων.
- Διαχείριση Κινδύνου και τήρηση αποθεμάτων ασφαλείας σε μια Εφοδιαστική Αλυσίδα.
- Διαχείριση Κινδύνων πνευματικής ιδιοκτησίας στην Εφοδιαστική Αλυσίδα.
- Κλιματική Αλλαγή και Διαχείριση Κινδύνου στην Εφοδιαστική Αλυσίδα.
- Η σημασία του προϊόντος στην Διαχείριση Κινδύνου σε Εφοδιαστικές Αλυσίδες.



Essay topics

- Η σημασία της ανθεκτικότητας (resiliency) για την Διαχείριση Κινδύνου σε παγκοσμιοποιημένες Εφοδιαστικές Αλυσίδες.
- Μεταφορά επικίνδυνων υλικών και Διαχείριση Κινδύνου.
- Διαχείριση φυσικών καταστροφών και διοίκηση Εφοδιαστικής Αλυσίδας: η περίπτωση των πλημμυρών της Ταϊλάνδης το 2011.
- Διαχείριση φυσικών καταστροφών και διοίκηση Εφοδιαστικής Αλυσίδας: η περίπτωση του σεισμού στην Ιαπωνία το 2011.
- Πληροφοριακά Συστήματα διοίκησης Εφοδιαστικής Αλυσίδας και Διαχείριση Κινδύνου



Essay topics

- Διαχείριση φυσικών καταστροφών και διοίκηση Εφοδιαστικής Αλυσίδας: η περίπτωση του τσουνάμι στην Ινδονησία το 2004.
- Διαχείριση Κινδύνου και εταιρική φήμη (reputational risks).
- Διαχείριση νομικών Κινδύνων στην Εφοδιαστική Αλυσίδα.
- Διαχείριση Κινδύνου και διαδικασίες πρόβλεψης της ζήτησης σε μια Εφοδιαστική Αλυσίδα.
- Διαχείριση Κινδύνου σε Συστήματα Μεταφοράς και Διανομής.
- Σύνθετοι Δείκτες Διαχείρισης Κινδύνου στην Εφοδιαστική Αλυσίδα.
- Διαχείριση Κινδύνου και χρήση της τεχνολογίας του blockchain στην Εφοδιαστική Αλυσίδα.



Lab course

- Μεθοδολογία έρευνας
- Βιβλιογραφικές βάσεις
- Λογισμικά διαχείρισης βιβλιογραφίας





Thank you!!!