



**HTM 116**

**Data-Driven Management  
Style for Transformations**

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# 1.0 Globalization and Business

Under globalization, the following trend has been identified:

## 1) Rising living standards

(Create business for auditing / corporate governance for decision making / compliance and social reporting jobs of safety/ healthy standards, Corporate Social Responsibility (CSR), Social Environmental responsibility (SER), Environmental Social GovernancRe (ESG)...etc.)

## 2) Cultural awareness and “Responsibility to Protect” (R2P)

(Creating demand for education and knowledge of human rights, forced labor, supply chain working conditions, intellectual property protection...etc.)

R2P - <http://www.responsibilitytoprotect.org>

# 1.0 Globalization and Business

- 3) **Impacts of economic meltdown (2008)**  
(leading to re-structuring business model to save costs, manpower, materials, and methods of doing things in an organization, for example, lean management, integration and technological development, e.g SAP)
- 4) **Outsourcing or international sourcing/  
“International Purchasing Office” (IPO)**  
(Creating new business operations model to reduce total operations cost with outsourced activities, e.g. IT, customer services and quality vendors)

# 1.0 Globalization and Business

Under globalization, the following trend has been identified:

## 5) Global production processes / components of semi-finished or finished products

(new business for joint partnership & collaboration for impacts )

## 6) Transformation of industries

12<sup>th</sup> 5 Yr Plan, China-

[http://www.apcoworldwide.com/content/pdfs/chinas\\_12th\\_five-year\\_plan.pdf](http://www.apcoworldwide.com/content/pdfs/chinas_12th_five-year_plan.pdf)

Environmental Protection –

<http://www.chinaenvironmentallaw.com/2009/03/04/chinas-environmental-protection-12th-five-year-plan/>

(innovative materials in textile industry – green, quality, fashion, upgrading technology in bio-chemistry industry, infrastructural development in telecommunication industry, new forms of energy etc )

# Globalization and Business

Characteristics-

Respond to  
Demand/ Customers/ Market -  
Quality/ Cost/ Delivery/ Flexible  
(QCDF)

# 1.1 Globalization & Responsiveness

- 1) **Customization** and standardization  
(design own products/ services for uniqueness/unify operations flow to save costs)
- 2) **Values creation** via tailor-made services and flexibility in price setting
- 3) **Process re-engineering** to save costs/ processes for new business/ business integration/ vertical and horizontal business / green implementation

# 1.1 Globalization and Responsiveness

4) **Cross-functional team** for innovations in products and services with professional development (horizontal and vertical expansion/ diversity with professionalism)



# 1.1 Globalization & Responsiveness

## 1) Customization and standardization

Shift from mass production to deliver tailor-made products/ services to customers for uniqueness

Production process needs to allow flexibility, built-in service and design elements

Production is driven by customer demand  
(pull by demand, instead of push by supply)



# 1.1 Globalization & Responsiveness

## 1) Customization and standardization

Plan for Change –

- moving targets – learning & adjusting along with changing demand & requirements/
- changing taste from customers/
- unpredictable needs driven by business environment, market, technology

# 1.1 Globalization & Responsiveness

## 1) Customization and standardization

Plan for Change –

- Build a system-of-systems (e.g. digital wallet)  
(a complex system of simple transactions)
- Hold up intention to buy  
(wait till obtaining sufficient product/ pricing/ market..e  
information for decision)
- Break linkage of sub-components  
(enable each component to change without  
impacting on others, e.g. IKEA)

# 1.1 Globalization & Responsiveness

## 1) Customization and standardization

Plan for Change –

- Adopt architectural approach  
(create holistic approach with logical components, e.g. lego-typed products)
- Break dependencies of using “Cells”  
(Modular Integration Process in Production)

(Linthicum 2010)

# 1.1 Globalization & Responsiveness

## 1) Customization and standardization

### Mass Customization

“..facilitate **planning for change** in that a given integration becomes more of an assembly process that a custom development effort so it can be completed quickly in response to new or changed requirements.”

(Linthicum 2010:152)

# 1.1 Globalization & Responsiveness

## 2) Values creation and cost management

Shift from competing against price (red ocean strategy) to value (blue ocean strategy) delivered to stakeholders in the business model (customers, suppliers, government, unions, competitors, shareholders...etc.)

Values perceived by customers, instead of producers or buyers in the chain

# 1.1 Globalization & Responsiveness

**Values** can be derived from the followings for delivering confidence to customers :

- 2.1) transparency of **corporate governance** for decision making and effective leadership and cross-functional team
- 2.2) **global sourcing and e-sourcing** for better and cheaper materials
- 2.3) accurate and **timely data** for traceability and reliability
- 2.4) stable and innovative product performance
- 2.5) consistent service delivery with competence

# 1.1 Globalization & Responsiveness

**Quality** can be built in products/ services for values :

## 1) Data Quantity (big data) / Quality (reliance & accuracy)

“a broad umbrella term used to describe the accuracy, completeness, consistency, conformity, and timeliness of a particular piece or set of data.”

## 2) Integration Quality

“the quality of the software services, workflows, processes, transformations, and other logic that control the movement and integration of data.”



# 1.1 Globalization & Responsiveness

## Cost Management

- On-going review to measure achievement of project benefits
- Determine cost structure  
(fixed and variable costs/ direct and indirect costs/ internal and external costs/ capital and operational costs/ one-time and on-going costs)

(Linthicum, 2010:207, 223, 229)

# 1.1 Globalization & Responsiveness

## Cost Management

- Conduct various kinds of analysis  
(cost effectiveness/ avoided costs/ work value analysis/ cost of quality analysis/ option value analysis/ analysis of technical importance/ alignment of business objectives/ analysis of level-of-service improvements/ research & development)

(Linthicum, 2010:207, 223, 229)

# 1.1 Globalization & Responsiveness

## Cost Management

- Cost Effectiveness  
benefits outweigh costs
- Avoided Costs  
compare the cost of proposed one with those of the current one that be avoided
- Work Value Analysis  
analyze work patterns throughout organization
- Cost of Quality Analysis  
savings gained from reducing cost of QA
- Option Value Analysis  
future opportunities

# 1.1 Globalization & Responsiveness

## Cost Management

- Analysis of Technical Importance  
infrastructure investment
- Alignment of Business Objectives  
investment on IT/ strategy for objectives
- Analysis of Level-of-service Improvements  
Benefits to quantity, quality, delivery of services
- Research & Development  
investment on outcomes of projects

# 1.1 Globalization & Responsiveness

## Cost Management

- Periodic benchmark best practice on operational cost efficiency
- Invest on automation

(Linthicum, 2010:207, 223, 229)

# 1.1 Globalization & Responsiveness

## 3) Process re-engineering and green implementation

Shift from focusing on logistics and process integration to embedding green elements into the purchasing green and organic materials, low carbon footprint transportation, saving energy in the warehouse, packaging with recycled materials, environmental-friendly shop-design

# 1.1 Globalization & Responsiveness

## 3) Process re-engineering and green implementation

complying global green standards, product specifications (CAS/ TAP green label in Taiwan), ISO 50001 Energy Management System, 14001...

Video :

ISO 14001

<http://www.youtube.com/watch?v=KUxbyQUGSnU&feature=related>

ISO 14001

<http://www.youtube.com/watch?v=6MwMRrhpyrg&feature=related>

ISO 50001

<http://www.youtube.com/watch?v=1xfCvHLFAfE&feature=related>

P & G

[http://www.youtube.com/watch?v=-g4pMTi\\_6TE&feature=related](http://www.youtube.com/watch?v=-g4pMTi_6TE&feature=related)



# 1.1 Globalization & Responsiveness

## 3) Process re-engineering and green implementation

complying global green standards, product specifications (CAS/ TAP green label in Taiwan), ISO 50001 Energy Management System, 14001...

Video :

Green SCM

<http://www.youtube.com/watch?v=wDxZ7JHdm40&feature=related>

Food Safety, Taiwan

<http://www.youtube.com/watch?v=kWDv5NaOLJ4>

<http://www.youtube.com/watch?v=-kf-9w6Gqz8&feature=related>

# 1.1 Globalization & Responsiveness

- 4) Cross-functional team and specialist in subject area (horizontal with vertical expansion/ broad-base with deepness)

Shift from focusing on a particular area in the chain to develop a holistic picture of sourcing, of costing, of networking, of managing risks from different areas...etc.

# 1.1 Globalization & Responsiveness

- 4) **Cross-functional team and specialist in subject area**  
(horizontal with vertical expansion/ broad-base with deepness)

Management Skills for the Future –

T-shaped skills

(cross-functional skills with in-depth expertise)

# 1.1 Globalization & Responsiveness

## 4) Cross-functional team and specialist in subject area Management Skills for the Future –

- market understanding
- management of complexity and change
- information systems and IT expertise
- ability to define, measure, manage service required by market

(Christopher, 2011:221)

# 1.1 Globalization & Responsiveness

## 4) Cross-functional team and specialist in subject area Management Skills for the Future –

- understanding cost-to-serve and time-based performance indicators
- specific functional excellence with cross-functional understanding/ team work capabilities
- relationship management and win-win orientation

(Christopher, 2011:221)

# 1.1 Globalization & Responsiveness

## 5) Flexible mindset and rigid system

Shift from system monitoring to dynamics follow-up along with changes in the external global environment

e.g. tax and customs government regulations, supplier selection, supplier-buyer relationship and performance, cross-cultural issues...etc.

# Globalization

Outsourcing and  
International Purchasing  
For

Diversity / Quality/ Cost Control



## 2.0 Outsourcing and International Purchasing

- Low Cost Countries
- International Purchasing Office (IPO)
- Product Risks

# 3.0 Low Cost Purchasing

## Purchasing outside the First World Domain

“characterized by mature institutions, political stability, legal protection, sophisticated production capabilities, and prosperity  
(Trent & Roberts, 2010)

## Emerging Sourcing - Low labor Cost

e.g. China & India

Eastern European countries

e.g. Russia

Latin American countries

e.g. Mexico & Brazil

S. E. Asian countries

e.g. Vietnam

# 3.0 Low Cost Purchasing

## Low-cost Sourcing

For certain / narrow range of commodities or products that may not be in emerging countries

e.g. Bangladesh and Honduras (LCCs) for textile items

Strategy for Purchasing :

- Buy among LCCs/ emerging countries/ third world or developing countries
- Seek for countries with potentials
- Plan for risk management  
for example:
  - risks from natural disaster,
  - risks affecting human lives ,
  - e.g. tainted toys, paint, pharmaceuticals and dairy products

# 3.1 Low Cost Purchasing

Concerns under Low Cost Countries (LCCs) :

1) **Supplier**

(quality, reliability, flexibility, responsiveness, trust, language proficiency, cultural accommodation ..etc.)

2) **Government and regional issues**

(tariffs and taxes, policy, intervention)

3) **Currency Stability**

(increase value of a currency, decrease the competitive power of exporting country)

# 3.1 Low Cost Purchasing

Concerns under Low Cost Countries :

- 4) **Time Management and Forecast Control**  
Lead time control / infrastructure reliability
- 5) **Responsibility and Mindset**  
Protection of human rights, intellectual property, working conditions, forced labor...etc.
- 6) **Unexpected challenges**  
e.g. natural disasters

## 3.2 Low Cost Purchasing and Controls

1) Supplier

1) Product Sample

- from outputs, instead of process, from delivery products, instead of sample lots

2) Government

2) Update regulations

Familiar customs regulations

maintain guanxi with officials

3) Currency

3) Hedging and readiness of “Plan B”

## 3.2 Low Cost Purchasing and Controls

4) Time

4) Using 3<sup>rd</sup> or 4<sup>th</sup> party with control and inspecting

5) Mindset

5) On-going education and exposure  
Mechanism to protect

6) Challenges

6) On-going and cross-sectional supplier sourcing and evaluation strategy

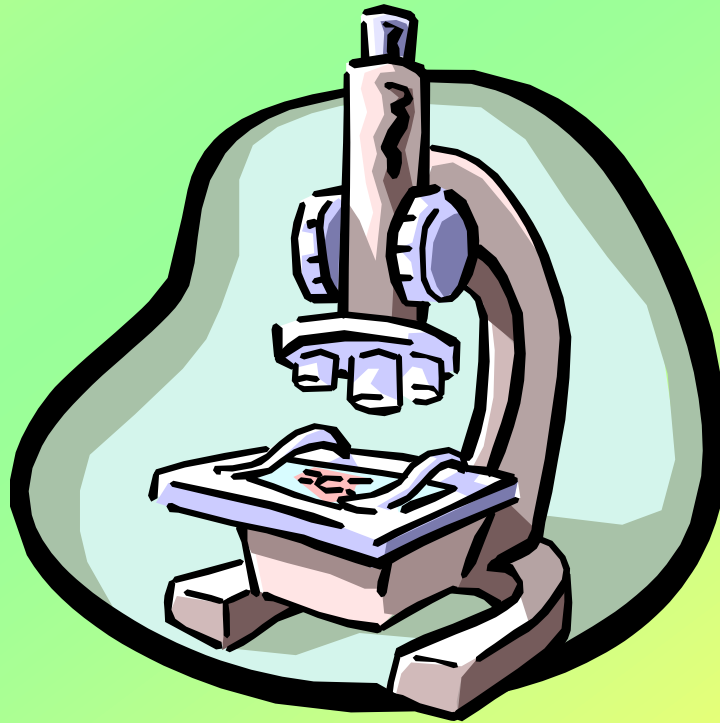


## 3.3 Low Cost Purchasing and Product Risks

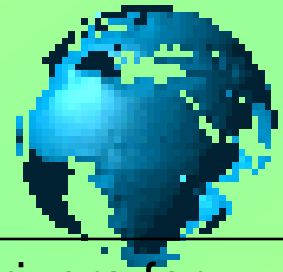
What are the risks that you've heard and source of data for risks prevention and business opportunities?

- 1) Pet food
- 2) Seafood
- 3) Dairy products
- 4) Children products  
(toy trains, paint (Mattel & Fisher-Price), mugs (Starbucks))
- 5) Healthcare products  
(toothpaste – FDA requirements, drug products -Baxter

# Managing Performance



## 4. SCM Performance Indicators- Balanced Scorecard



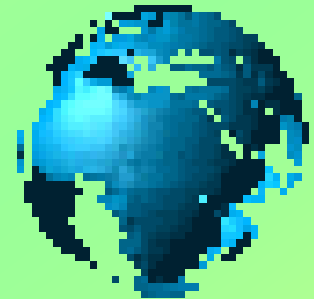
Goals	Strategy	Measurement of Performance	Drivers for Performance
Corporate and marketing goals	Guanxi with partners, incl. 3PL and 4PL	Better service quality Closer customer relationship e.g. order fulfillment / customer retention	Innovative Leadership with strategic partnership
	Transportation arrangement	Faster delivery e.g. end-to-end delivery	
		Lower total landing cost e.g. cost to save	

## 4. Total Quality Purchasing (TQPur) – 1



<b>Scope of purchasing</b>	<b>Position of purchasing</b>	<b>Purchasing Performance Measures</b>	<b>Focus on</b>
Clerical function	Low	Number of orders, backlog, purchasing administration, lead time, authorisation, procedures, etc.	efficiency
Commercial function	Report to management	Saving, cost-reduction, negotiation, contracting, single/sole sources, etc.	efficiency
Strategic business function	Integrated in strategic planning	Supplier development, make vs. buy studies, integration with R&D, value analysis, purchasing engineering, etc.	effectiveness

# 4. Total Quality Purchasing (TQPur) – 2



## **Purchasing Effectiveness**

### ◆ Purchasing Price / Cost Dimension

- costs / prices
- competition
- co-ordination
- transportation .....

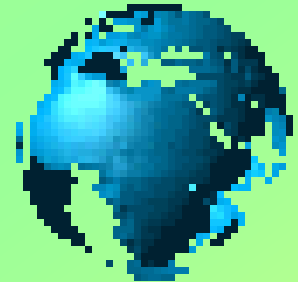
### ◆ Purchasing Quality Dimension

- specifications
- rejects / returns
- rework
- production stops .....

### ◆ Purchasing Logistics Dimension

- lead times
- order-quantity
- inventories
- vendor-performance
- deliveries (late, on time, early)...

## 4. Total Quality Purchasing (TQPur) – 3



### **Purchasing Efficiency**

- ◆ Purchasing Organisation Dimension
  - workload / orders / quotations
  - procedures
  - information system
  - management
  - expertise .....

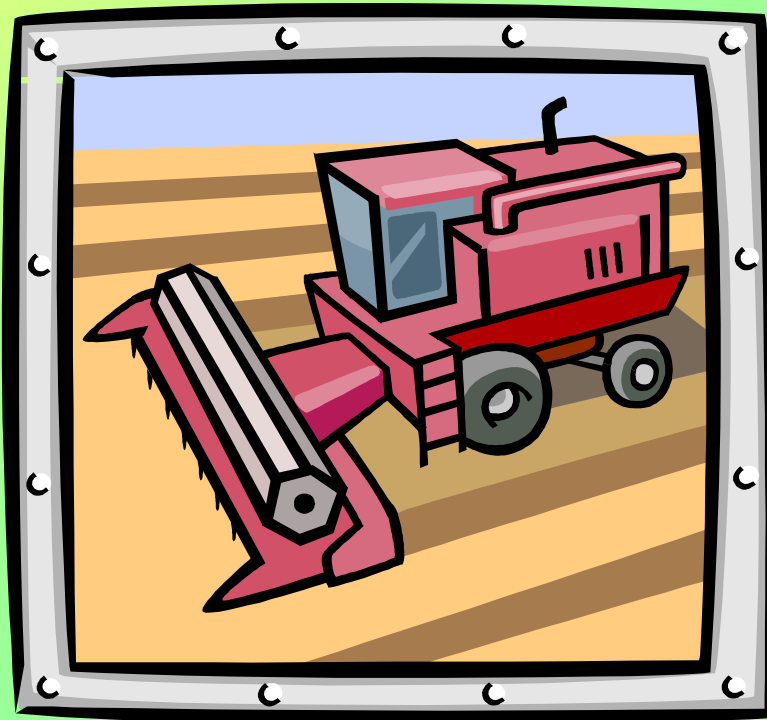
## 4. Tutorial Exercise



**How can you apply the Total Quality related data into purchasing approach ?**

**Form a team of 3 and discuss.  
Then present for 5 minutes.**

# 5. Current and Future Logistics in China





# 5. Current and Future Logistics in China

Current Services Offered :

- 1) Mainline transportation 94.6%
- 2) Warehousing 85.9%
- 3) Urban distribution 55.4%
- 4) **Value-added services 45.7%**

# 5. Current and Future Logistics in China

Perception of 3 most important selection criteria to customers :

- 1) Rate level (88.6%)
- 2) Information processing (68.2%)
- 3) Pickup and delivery reliability (33%)
- 4) Geographic coverage (30.7%)
- 5) Lead time performance (28.4%)
- 6) **3-party logistics (14.8%)**
- 7) Loss and damage performance (1.1%)

# 5. Current and Future Logistics in China

## 3-Party Logistics Opportunities:

Improvement in **dependability, responsiveness, flexibility** and lessen **current restrictions** on distribution and logistics services

- 1) **Advanced management (61%)**
- 2) Preferential policy by govt.(17%)
- 3) Better service quality (11.8%)
- 4) Better equipment and facilities (10.2%)

## 6. Risk and SCM

### Lessons for SCM - Disaster

- <http://www.youtube.com/watch?v=EuXCPyPxW6M&feature=related>

### Impact of Earthquake in Japan

- <http://www.youtube.com/watch?v=SP7Ow1gAotA&feature=related>

# 7. Globalization and Managing Currency Fluctuation

Globalization leads to inter-dependence among countries.

Currency fluctuation affects cost of purchase in supply chain management

# 7. Globalization and Managing Currency Fluctuation

Methods to manage currency fluctuation:

- 1) Settle in US dollars or buy from countries peg with US dollars
- 2) Incorporate currency risk into price
- 3) Ignore currency risk if purchase is short-term and politically stable

# 7. Globalization and Managing Currency Fluctuation

Methods to manage currency fluctuation:

- 4) Set an agreed purchase price to avoid currency fluctuation
- 5) Fix a time for agreed price and re-negotiate terms set in the contract
- 6) Engage in hedging currency (buy and sale simultaneously)

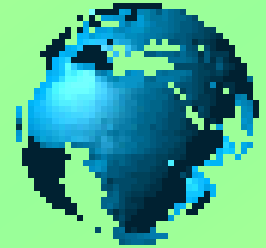
## 8.0 Integration for Value- adding



- 1) Lean Integration**
- 2) Metadata Management**
- 3) Business Process Management,  
e.g. supplier evaluation**



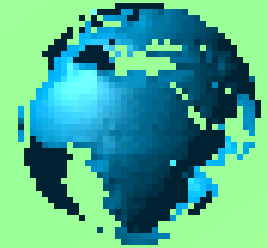
# 8.1 Lean Integration



- **System of systems at different levels**
- **Implement projects with solutions**
- **Make multi-projects sustainable**
- **Build quality solutions**
- **Establish processes to sustain solutions indefinitely in a production environment**
- **An unique collection of methods to achieve sustainable results**

(Schmidt & Lyle, 2010)

# 8.1 Lean Integration

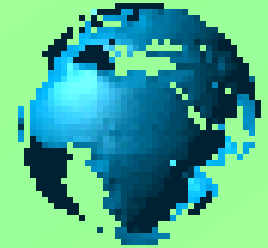


## 1) **Project**

- Ad hoc integration processes
- Project activity in development life cycle
- Few integration processes defined
- Limited change control

(Schmidt & Lyle, 2010)

## 8.1 Lean Integration

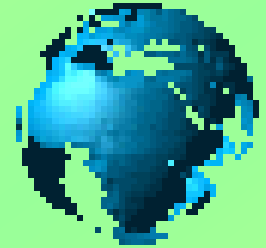


### 2) Program

- Identified cross-functional and cross-system impacts of planned changes in project life cycle
- Defined integration processes
- Basic integration on cost, schedule, requirements
- Change control evolved into change management

(Schmidt & Lyle, 2010)

## 8.1 Lean Integration



### 3) Sustain

- **Standardized, documented, universally applied integration management processes for full life cycle across enterprise**

(Schmidt & Lyle, 2010)

## 8.1 Lean Integration



### 4) **Lean**

- Continuous improvement via quantitative feedback from processes and piloting innovative technologies
- Unified internal & external data and process definitions
- Common business functions support channels

(Schmidt & Lyle, 2010)

## 8.2 Metadata Management

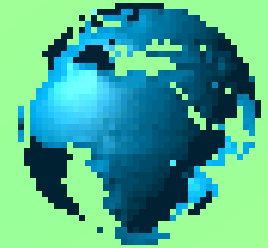


### 1) Metadata

- **Blueprint for data in an organization with information describing data and data processes that enable efficiency operation**

(Schmidt & Lyle, 2010)

# 8.2 Metadata Management

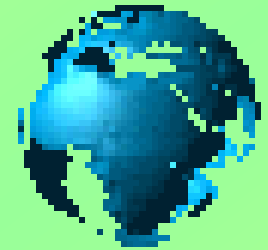


## 2) Metadata Program

- Metadata management tools used for sophisticated business models to support new capabilities
- e.g. process models, event models
- May not for on-going operations

(Schmidt & Lyle, 2010)

## 8.2 Metadata Management



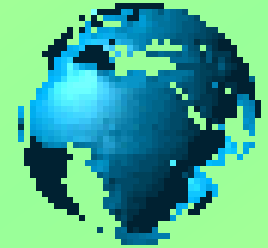
### 3) Sustaining Metadata Program

- System inventory maintained as official list of applications in organization
- Broad-base practice to capture data across organization with IT elements as database, servers, assets, incidents

(Schmidt & Lyle, 2010)



## 8.2 Metadata Management



### 4) Lean Metadata Program

- Establish data governance program

(Schmidt & Lyle, 2010)

# 8.3 Business Process Management - Supplier Evaluation



## 1) Evaluation Methods

- Using Six Sigma, new and sharing technology to manage and improve supplier performance

## 2) Supplier Readiness

Potential suppliers in low cost countries or emerging countries may not be at world level

Switching suppliers may not be easy

## 8.3 Business Process Management - Supplier Evaluation



### **3) Technology Development**

- Implement new kinds of technology to reduce risks, joint planning, best practice sharing, extensive communication, narrowing down geographical distance problem**

# 8.3 Business Process Management - Supplier Evaluation



## 4) Total Cost Concept

### - Total Landed Cost

(reflect logical progression of materials through categories of costs, e.g.

Manufacturing – materials, storage, labor, quality, overhead, outdated materials, packaging and handling risk, inventory carrying charges, exchange rate fluctuation

# 8.3 Business Process Management - Supplier Evaluation



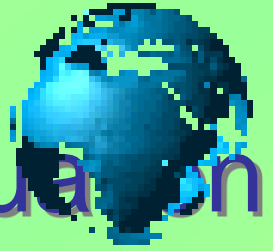
## 4) Total Cost Concept

### - Total Landed Cost

(reflect logical progression of materials through categories of costs, e.g.

In-transit : transportation charges, customs and clearance, fuel and port charges, insurance & security, brokerage charge, banking charge, detention charge, inventory carrying charge

# **8.3 Business Process Management - Supplier Evaluation**



## **4) Total Cost Concept**

### **- Total Landed Cost**

**(reflect logical progression of materials through categories of costs, e.g.**

**Country of Sale : local transportation charges, storage, safety stock, taxes, insurance, maintenance & quality, overhead and payment terms, productivity implications and cost allocation**

# 8.3 Business Process Management - Supplier Evaluation



## 4) Total Cost Concept

### - Life Cycle Cost

**Unit Price (including purchasing terms)**

**Requisition Costs (including equipment installation, maintenance & spare parts, energy consumption and yield)**

**End of life cost (including all costs removing equipment for resale and scrap)**

## 9. Integration for Adding Value



**How can you link up information for decision making ?**

**Form a team of 3 and discuss. Then present for 5 minutes.**



# Reference

Business Source Complete (2011) “Third-party-logistics on the rise in China”, Air Cargo World, June, Vol. 101, Issue 6.

Christopher, Martin (2011) Logistics & Supply Chain Management, Pearson Education Limited, UK.

Hong, Junjie, Chin, Anthony T.H. & Liu, Binglian (2007) “Logistics service provides in China”, Asia Pacific Journal of Marketing and Logistics, Vol. 19, No. 2.

Linthicum, David S. (2010) Lean Integration, Pearson Education, Inc. US.

Lee, H. L., & Lee, C. Y. (2007). *Building Supply Chain Excellence in Emerging Economies*. New York: Springer.

Southern, R. Neil (2011) “Historical Perspective of the Logistics and Supply Chain Management Discipline”, Transportation Journal, Vol. 50, No.1.

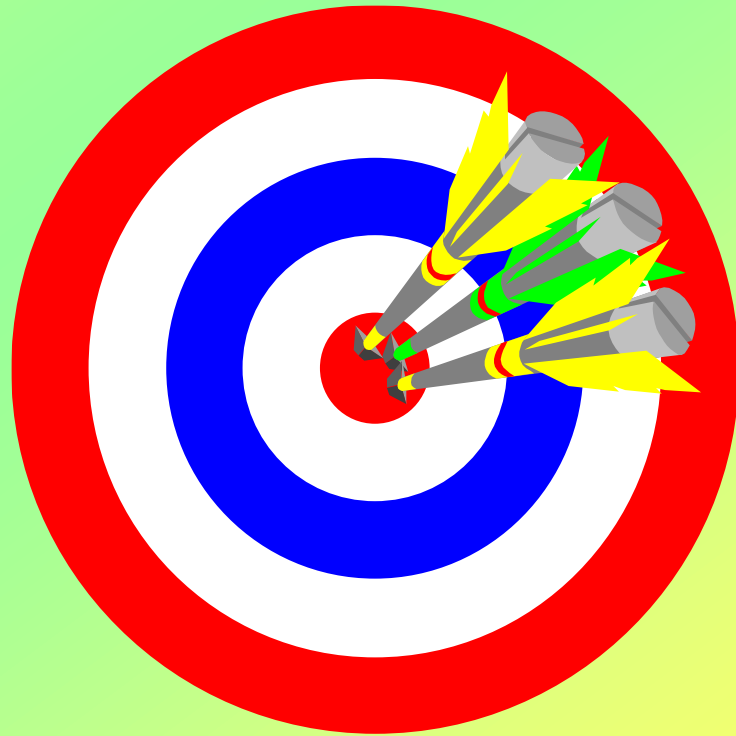
Trent, Robert J. and Roberts, Llewellyn R. (2010) Managing Global Supply and Risk, J. Ross Publishing, US.

<http://www.freight-forwarders.org/>

The only 'silly' question is the one which has not been asked.

*Do Harvard 1-minute Agenda now.*

? ? ? - Q & A - 7 7 7





**Thank You !**

