
Global Supply Chains

Outline

- ◆ Global SCs
- ◆ Forces Fueling/Undercutting Globalization
- ◆ Import Management - Execution
- ◆ Pizza Hut Moscow

Global SCs

- ◆ Product differences
 - Are there global products?
 - » Nike sport shoes, NY Deli sandwich, Supply Chain book.
 - What is the balance between local tastes, global products?
- ◆ Dealing with established competition, aggressive competitors
- ◆ Developing local market knowledge
- ◆ Lack of critical mass
- ◆ Different infrastructure/ business environment
 - distribution problems
 - different equipment standards
 - cultural differences
- ◆ Issues with foreign governments
- ◆ Deep pockets for success
 - Success may not come at once

Increasing Globalization

- ◆ 1/5 of output of US firms produced abroad
- ◆ US Companies hold \$500 Billion in foreign asset stocks (7% annual growth)
- ◆ 1/4 of US imports between foreign affiliates and US parent companies
- ◆ Over half of US companies increased the number of countries in which they operate (late 80's to early 90's)
- ◆ The weight of US economy in the world economy

Forces Fueling Globalization

1. Global Market Forces
2. Technological Forces
3. Global Cost Forces
4. Political and Economic Forces

1. Global Market Forces

- ◆ Growth in foreign demand
 - Domestic consumption from 40% (in 1970s) to <30% of world consumption
 - Foreign sales fuel growth
 - » Wal-Mart announced sales growth of 11% in Nov 06 almost totally because of the increase in global sales
- ◆ Global presence as a risk management strategy
- ◆ Presence in state-of-the-art markets
 - Japan -- consumer electronics
 - Germany -- machine tools

Technological, Cost, Political and Economic Forces

2. Technological Forces

- ◆ Diffusion of knowledge
 - High tech components developed overseas
 - Need close relationships with foreign suppliers
 - For example, Canon has 80% of laser engines
- ◆ Technology sharing/collaborations
 - Access to technology/markets
- ◆ Global location of R&D facilities
 - Close to production (as cycles get shorter)
 - Close to expertise (Indian programmers?)
 - TI (Texas Instruments) has research facilities in 11 countries!

3. Global Cost Forces

- ◆ Low labor cost
 - Diminishing importance
 - Costs underestimated
 - Benefits overestimated
- ◆ Other cost priorities
 - Integrated supplier infrastructure
 - Skilled labor
- ◆ Capital intensive facilities
 - Tax breaks
 - Cost sharing, supply price reduction
 - Joint ventures

4. Political and Economic Forces

- ◆ Exchange rate fluctuations and operating flexibility: € vs. \$.
- ◆ Regional trade agreements (EU, NAFTA, Pacific Rim)
 - Implications for supply network design to avoid tariffs

Forces Undercutting Globalization

◆ Trade protection mechanisms

- Tariffs
- Quotas: *“Cotton ... quota is tightening up worldwide. We will probably be in an embargo situation in Bangladesh by August, with Indonesia, and Malaysia right behind. This will put additional pressure on China. Expect prices to escalate through the year. ... We may need to make some [purchase] commitments earlier than usual.”* A JCPenny memo in April 2002.
- Voluntary import restrictions: Japanese consumers for US autos
- Local content requirements: Japanese automakers in the EU
- Health/environmental regulations: Japanese refused to import US skis for many years (different snow?)
- Government procurement policies: Up to 50% advantage for American companies on US Defense contracts

◆ Exchange rate uncertainties

◆ Infrastructural inadequacies

- Worker skill, performance expectations
- Supplier availability, reliability, contracts
- Inadequacies in technology transportation, communications infrastructure

◆ Substantial geographic distances

- Added coordination, forecasting difficulties; higher likelihood of disruption
- High gas prices can reverse the globalization trend

Forces Undercutting Globalization

◆ Appearing productivity advantage

- Chinese productivity is increasing with respect to that of US.

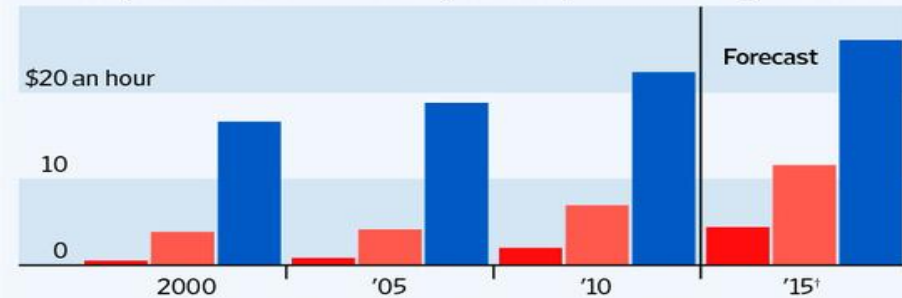
◆ Disappearing labor cost advantage

- Increasing wages in China: “Wage rates are soaring in China as the market for skilled workers tightens and the previously mute labor movement finds its voice ... for higher salaries. In many sectors, annual wage growth is running at 15% or more.”
- Appreciating Yuan
- Decreasing costs in the US: Incentives, tax breaks by states of US (Mississippi, Southern Carolina, Alabama). Union concessions in wages and benefits due to high unemployment.

The Disappearing Cost Advantage

China's productivity-adjusted compensation* in manufacturing gets closer to U.S. rates

■ China average national compensation rate
 ■ China compensation rate adjusted for China productivity
 ■ U.S. average national compensation rate



	2000	2005	2010	2015'
China productivity relative to U.S. productivity, %	13	20	29	38
China compensation rate as a % of U.S. compensation rate	23	22	31	44
Cost of productivity in China relative to US	1.770	1.110	1.069	1.158

Outsource to China

◆ Equipment - technology intensive industries can return to US.

- Globalfoundries fab in Malta, NY. Caterpillar plant in Victoria, TX. NCR ATM production in Columbus, GA.

◆ Labor intensive industries can move from China to Vietnam or India.

Based on “Analysis: Will costs drive firms home?” by J. Bussey in WSJ Management Section, May 5, 2011.

Forces Undercutting Globalization

◆ Cultural differences

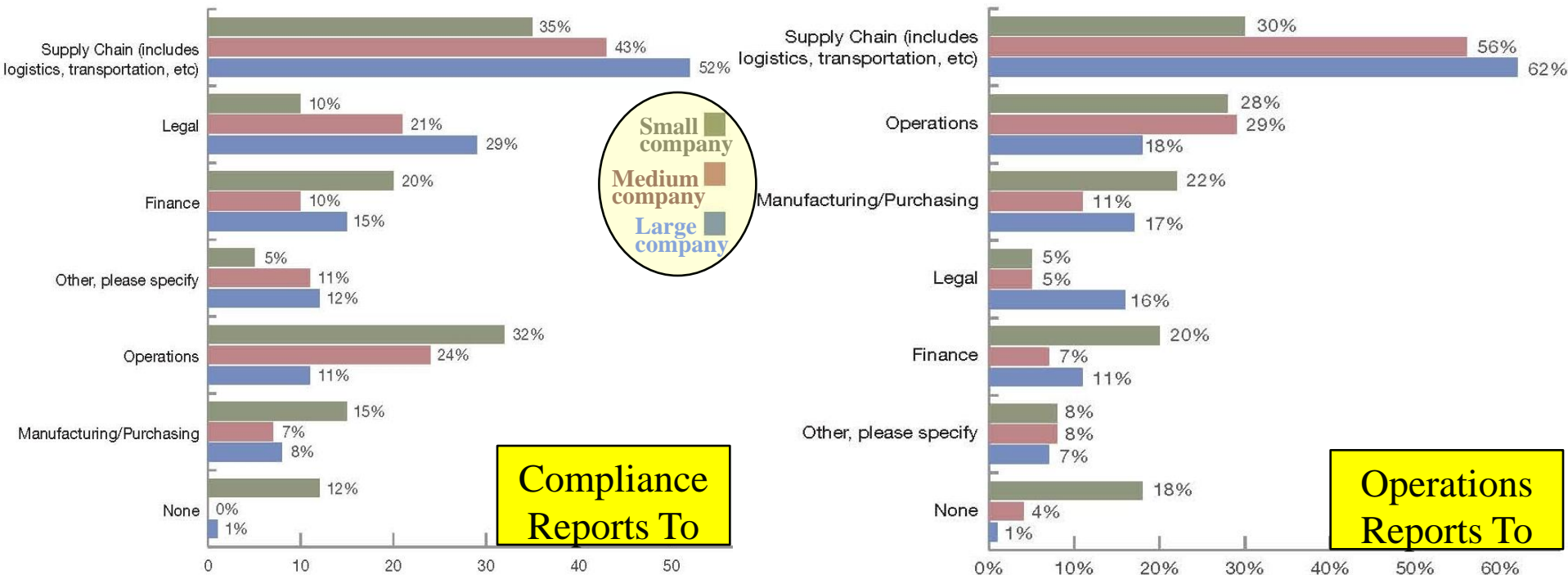
- Accepted partnerships styles, punctuality
- Culture
 - » In United States
 - ◆ Yankees are straight to the bottom of the matters
 - ◆ Southerners like to take their time
 - ◆ Westerners are relaxed, somewhat out of the box (dress code, work schedule)
 - » Canadians like different flavored ketchups sold by Frito-Lay
 - » Finish make deals in sauna
 - » French drink during lunch
 - » Japanese tend to do business with their acquaintances
- Language
 - » “Nova car” means the “car that does not go” in Spanish. Nova is not a good car brand in Spanish speaking countries.

◆ **Political instability:** Tax rates, government control

◆ **Added competition “at home”:** Loss of focus

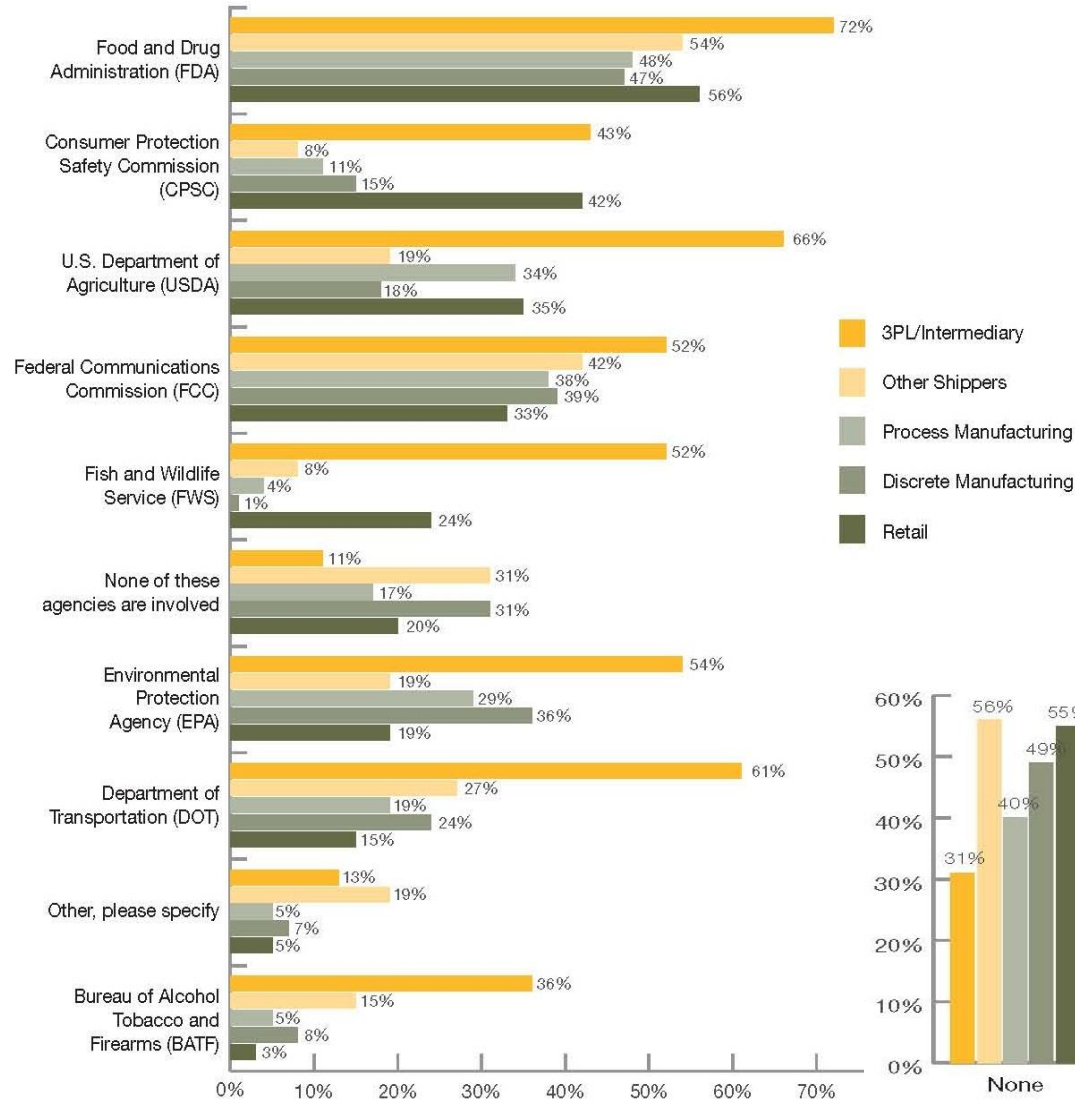
Import Management: Compliance vs. Operations

- ◆ “Import Operations and Compliance Benchmark Study: Risky Business” by J. Blaeser. Published by American Shipper www.americanshipper.com in May 2011.
- ◆ Respondents were about 450. 24% in 3PL; 24% in Retail/Wholesale; 45% in Manufacturing, and so on.
- ◆ 24% small company, annual sales < \$100 M. 36% medium company, \$100 M < annual sales < \$1000 M. 40% large company, annual sales > \$1000 M.



- ◆ In quite a few companies, supply chain organization manages both operations and compliance. The same organization needs to be fast and careful at the same time – a conflict of interest. Many customs authorities suggest that a different organization (such as legal or finance) oversee the compliance function.

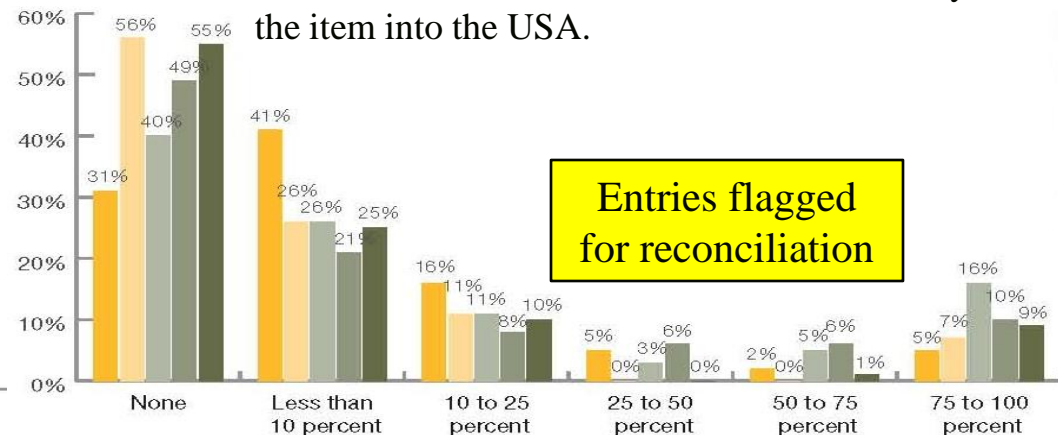
Import Management: Compliance with Agencies otherwise Reconciliation



Entry Documents: Within 15 calendar days of the date that a shipment arrives at a U.S. port of entry, entry documents must be filed at a location specified by the port director. These documents are:

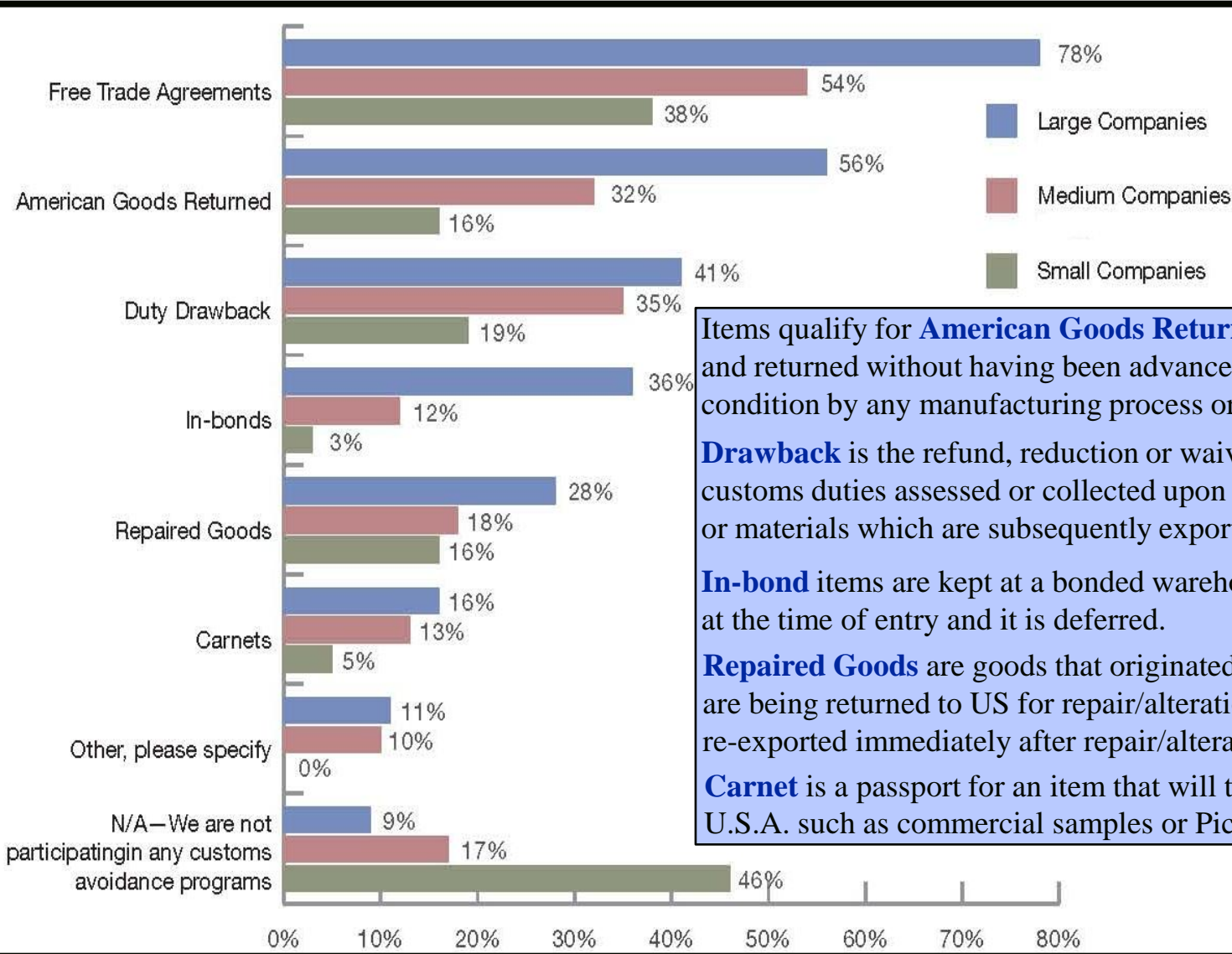
- Entry Manifest (CBP Form 7533) or ...
- Evidence of right to make entry,
- Commercial invoice or ...
- Packing lists, if appropriate,
- Documents to determine admissibility.

Reconciliation is the process by which an importer corrects information (duty, classification, or value) after filing of the entry summary with the CBP (Customs and Border Protection) agency. It is due within about 12-15 months of the entry of the item into the USA.



Entries flagged for reconciliation

Import Management: Duty Avoidance



Items qualify for **American Goods Returned** if they are exported and returned without having been advanced in value or improved in condition by any manufacturing process or other means while abroad.

Drawback is the refund, reduction or waiver in whole or in part of customs duties assessed or collected upon importation of an article or materials which are subsequently exported.

In-bond items are kept at a bonded warehouse, their duty is not paid at the time of entry and it is deferred.

Repaired Goods are goods that originated from the U.S.A., that are being returned to US for repair/alteration and that will be re-exported immediately after repair/alteration.

Carnet is a passport for an item that will temporarily remain in the U.S.A. such as commercial samples or Picasso paintings.

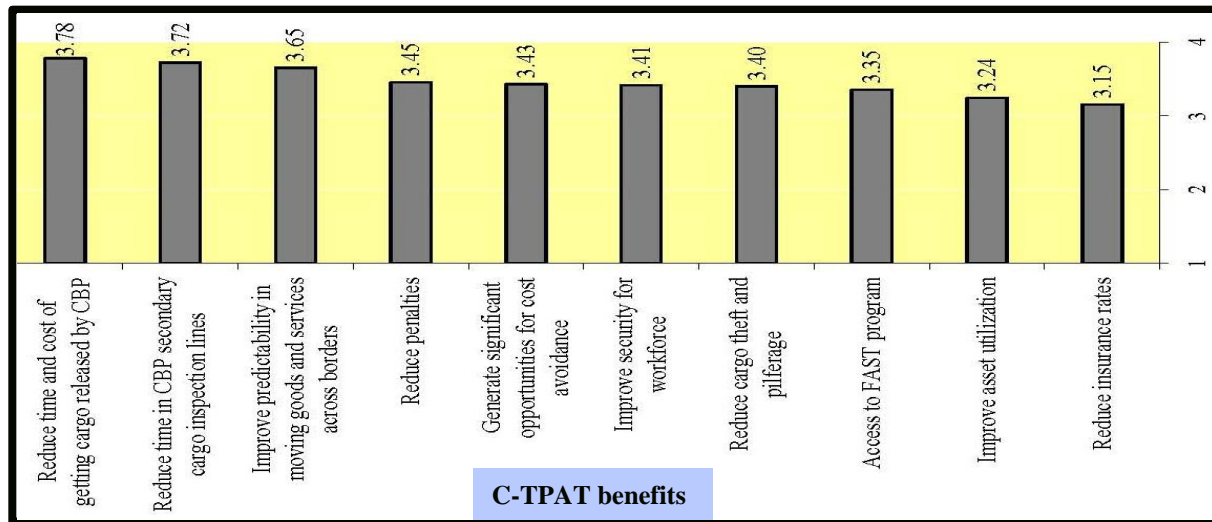
Import Management

Collaboration with CBP to Facilitate Custom Processes

C-TPAT: Customs-Trade Partnership Against Terrorism

- ◆ C-TPAT is a voluntary government-business initiative to build cooperative relationships that strengthen and improve international SC and U.S. border security.
- ◆ By participating in this supply chain security initiative, companies ensure a more secure and expeditious supply chain for their employees, suppliers and customers and
 - A reduced number of CBP inspections (reduced border delay times)
 - Priority processing for CBP inspections. (front of the line processing)
 - Assignment of C-TPAT Supply Chain Security Specialists (SCSS) to work with the company to enhance security of the company’s international SC.
 - Eligibility for CBP Importer Self-Assessment program (ISA) with an emphasis on self-policing, no CBP audits.
 - Eligibility to attend C-TPAT supply chain security training seminars.

C-TPAT cost of implementation for the first time, excluding maintenance cost	Less than \$10 million	\$10 million to Less \$100 million	\$100 million to less than \$10 billion	\$10 billion or more
Improving physical security	\$16,739 (192)	\$23,160 (168)	\$43,718 (103)	\$98,673 (105)
Improving in-house awareness	\$2,628 (108)	\$4,200 (96)	\$12,778 (81)	\$20,588 (75)
Salaries and expenses of personnel	\$9,808 (130)	\$24,220 (119)	\$39,523 (99)	\$67,317 (104)
Improving cargo security	\$6,488 (130)	\$14,090 (104)	\$18,577 (62)	\$45,619 (77)
Improving personnel security procedures	\$2,928 (107)	\$10,670 (82)	\$13,728 (53)	\$30,743 (48)
Improving identification system	\$2,871 (116)	\$4,971 (97)	\$9,574 (61)	\$33,349 (52)
Improving personnel screening procedures	\$2,093 (94)	\$6,842 (69)	\$13,117 (40)	\$13,671 (41)
Improving IT systems and databases	\$6,570 (111)	\$27,160 (70)	\$53,979 (31)	\$44,862 (39)
Improving use of security for personnel	\$7,093 (39)	\$36,992 (41)	\$39,419 (33)	\$73,202 (29)



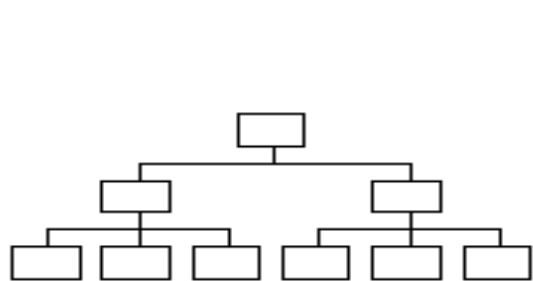
Pizza Hut Moscow

- ◆ Moscow - May 1991
- ◆ Two Pizza Huts to open in Moscow -- “Toe in the water for Western business”
- ◆ Pizza Hut - 49% partner in joint venture
- ◆ *Key Issue*: Foreign companies cannot repatriate their earnings (ruble earnings could not be converted to hard currencies)
- ◆ Two restaurants set up: **ruble restaurant and hard currency restaurant**
 - Hard currency restaurant more expensive for same items, better service
 - Hedge against exchange rate risk, get hard currency
- ◆ Human Resources
 - Extremely well educated staff
 - Unfamiliar with western concepts of quality
 - Incentive systems critical
 - Two separate staffs - more qualified in hard currency restaurant

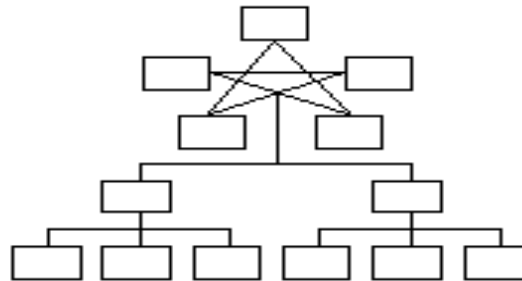
Pizza Hut Moscow: Difficulties

- ◆ Construction
 - Even **nuts and bolts** needed to be imported: **Different standards**.
- ◆ Communication
- ◆ Food supplies:
 - Quality, reliability at **meat** plants.
 - **Mozzarella** could not be made due to quality of cow milk. Cows had to be raised differently.
 - Unavailable **refrigerated trucks**.
 - 70% USSR sourcing desired to ensure **long-term viability**.
 - Winter **shortages**.
- ◆ Initial operations
 - Government **randomly shuts down** facilities several times
 - **Supply prices** changed rapidly and without warning
 - High **employee turnover** --- one new employee a day
 - **Failing incentive programs**
 - » Program started with bonus, decreased if goals not met
 - » Salary floor was higher than typical salary
 - **Absenteeism**

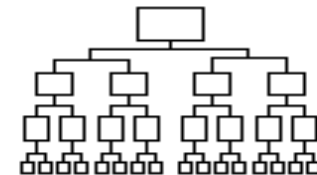
ORGANIZATION SCHEMES



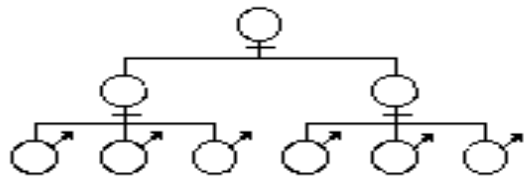
TRADITIONAL



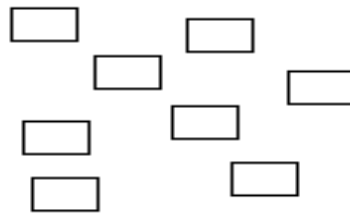
RUSSIA



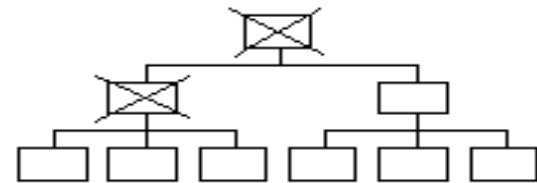
POLAND



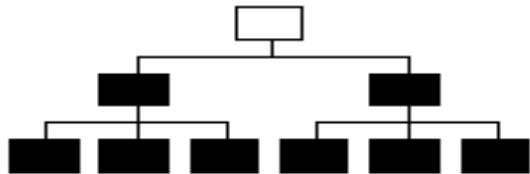
WOMAN'S ORGANIZATION



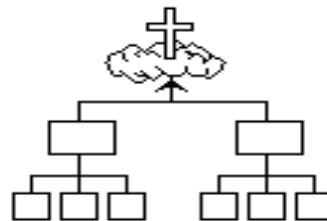
ARABIAN COUNTRIES



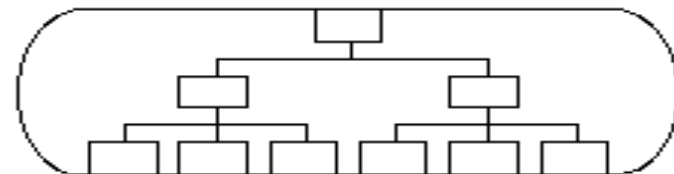
LATIN AMERICA



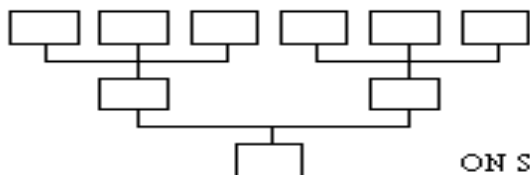
SOUTH AFRICA



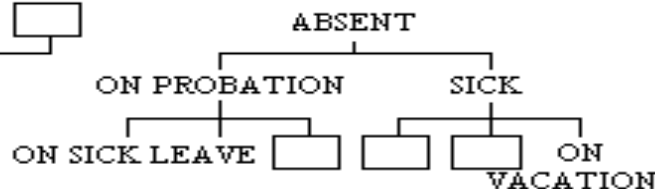
VATICAN



U.S.A.



CHINA



FRANCE



TURKEY

Failure of a UN Survey

A worldwide survey was conducted by the UN. The only question asked was:

"Would you please give your **honest opinion** about **solutions** to the **food shortage** in the **rest of the world**?"

The survey was a huge failure...

- ◆ In Eastern Europe, they didn't know what "**honest**" meant.
- ◆ In Western Europe, they didn't know what "**shortage**" meant.
- ◆ In Subsaharan Africa, they didn't know what "**food**" meant.
- ◆ In China, they didn't know what "**opinion**" meant.
- ◆ In the Middle East, they didn't know what "**solution**" meant.
- ◆ In South America, they didn't know what "please" meant.
- ◆ In the USA, they didn't know what "**the rest of the world**" meant.

Summary

- ◆ Global SCs
- ◆ Forces Driving Globalization Forth and Back
- ◆ Import Management
- ◆ Pizza Hut Moscow

BMW -- Globalizing Manufacturing Operations

- ◆ 1994 - Majority of BMW manufacturing in Germany
 - Some “kit factories” in Far East
- ◆ Disappointing market share in 1994
- ◆ US Problems
 - 1986-1989 Sales in US fell 65%
 - Gas guzzler tax
 - Luxury tax
 - Japanese Competition
 - » Dramatically Cheaper

BMW -- Globalizing Manufacturing Operations

◆ US Problems, Continued

- High German labor costs
 - » 45% Higher than US
 - » Longer vacations
 - » Higher Absenteeism
- Appreciating mark
- Production costs in Germany 30% Higher than US

◆ Solution - US Plant

- Enables operational flexibility

BMW -- Globalizing Manufacturing Operations

◆ Additional Issues

- Tax breaks in South Carolina
- Opportunity to build new, flexible plant
 - » New labor practices
 - » New culture
 - » New technology
- To ensure quality, much training

◆ Building a Global Supplier Network

- Local supplier base key to success
- Requires careful selection, training
- Value of local suppliers vs. firms which could supply all BMW plants