

Master Degree Programme in Computer Science

Enterprise Information Systems

26. Managing Global Systems



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New Systems Help Eli Lilly Standardize as a Global Company (1 of 2)

- Problem
 - Global footprint
 - Disparate local processes, systems, and data
- Solutions
 - Design global strategy and business model
 - Globalize business processes
 - Deploy SAP ERP and GRC Process Control



New Systems Help Eli Lilly Standardize as a Global Company (2 of 2)

- Global ERP System
- Demonstrates IT's role in helping organizations pursue a global growth strategy
- Illustrates the ability of IT systems to standardize global processes and rules

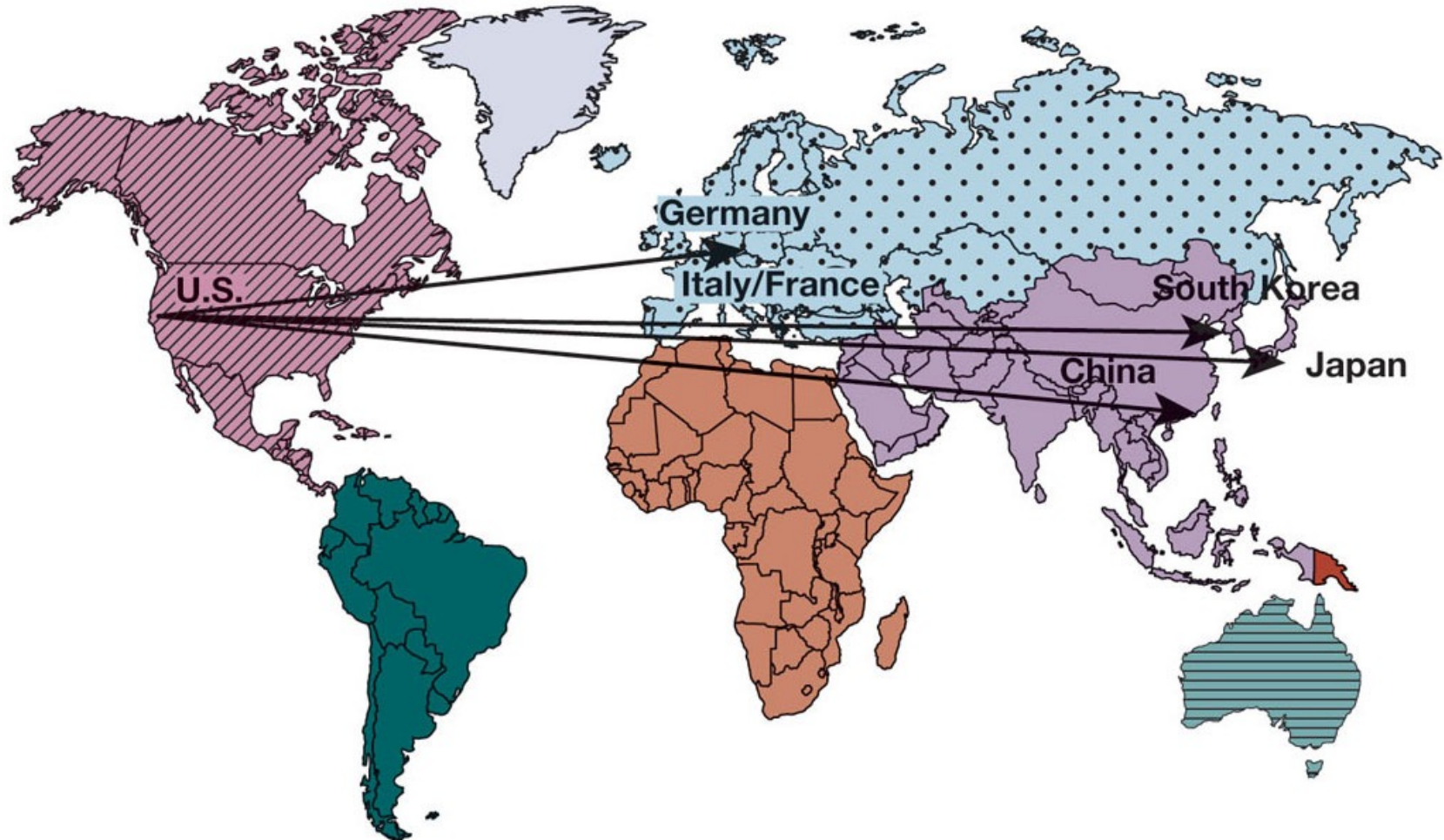


What Major Factors Are Driving the Internationalization of Business?

- Global economic system and global world order driven by advanced networks and information systems
- The growth of international trade has radically altered domestic economies around the globe
- For example, production of many high-end electronic products parcelled out to multiple countries
 - For example: Apple iPhone's global supply chain



Apple iPhone's Global Supply Chain



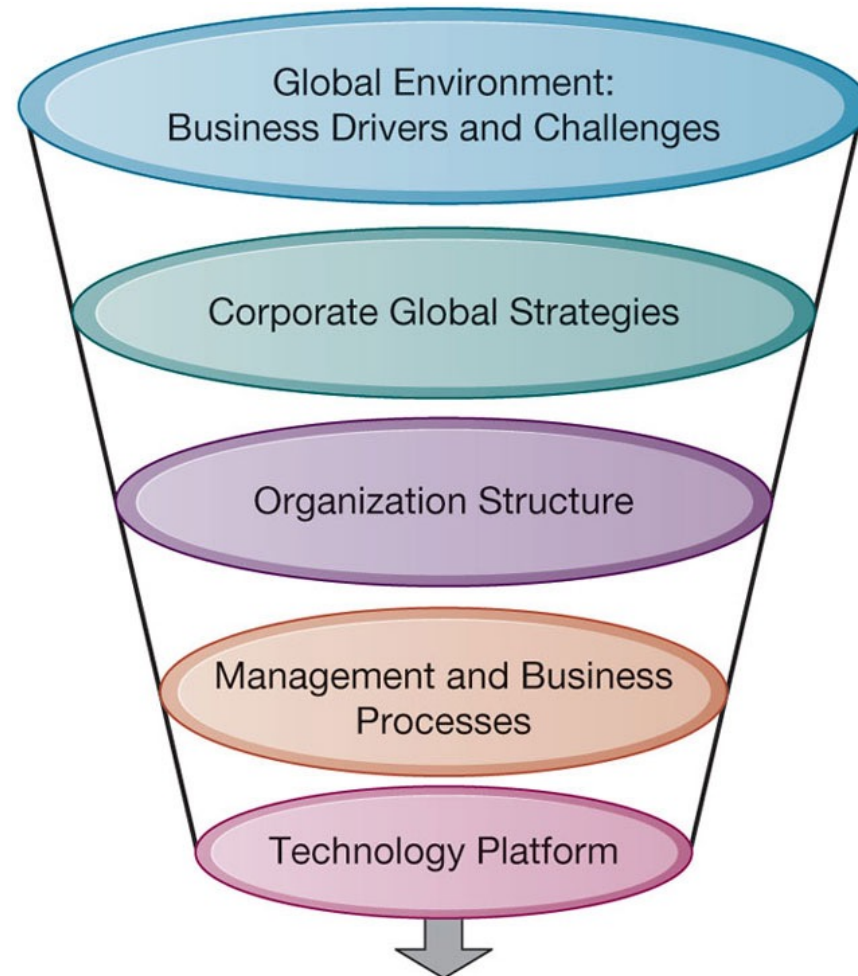
Developing an International Information Systems Architecture

- Understand global environment
 - Business drivers for global competition
 - Inhibitors creating management challenges
- Develop corporate strategy for global competition
- Develop organizational structure and division of labor
- Consider management issues
 - Design of business procedures, reengineering, managing change
- Consider technology platform



International Information Systems

Architecture



The Global Environment: Business Drivers and Challenges

- General cultural challenges
 - Cultural particularism
 - Social expectations
 - Political laws
- Specific challenges
 - Standards
 - Reliability
 - Speed
 - Personnel



The Global Environment: Business Drivers and Challenges

General Cultural Factors	Specific Business Factors
Global communication and transportation technologies	Global markets
Development of global culture	Global production and operations
Emergence of global social norms	Global coordination
Political stability	Global workforce
Global knowledge base	Global economies of scale

Challenges and Obstacles to Global Business Systems

Global	Specific
Cultural particularism: Regionalism, nationalism, language differences	Standards: Different Electronic Data Interchange (EDI), e-mail, telecommunications standards
Social expectations: Brand-name expectations, work hours	Reliability: Phone networks not uniformly reliable
Political laws: Transborder data and privacy laws, commercial regulations	Speed: Different data transfer speeds, many slower than United States
	Personnel: Shortages of skilled consultants

State of the Art

- Most companies have inherited a patchwork international system using traditional batch-oriented reporting, manual data entry, legacy systems, and little online control
- Significant difficulties in building appropriate international architectures
 - Planning a system appropriate to firm's global strategy
 - Structuring organization of systems and business units
 - Solving implementation issues
 - Choosing right technical platform



Global Strategies and Business Organization

- Three main kinds of organizational structure
 - Centralized: In the home country
 - Decentralized/dispersed: To local foreign units
 - Coordinated: All units participate as equals
- Four main global strategies
 - Domestic exporter
 - Multinational
 - Franchisers
 - Transnational



Global Business Strategy and Structure

Business Function	Domestic Exporter	Multinational	Franchiser	Transnational
Production	Centralized	Dispersed	Coordinated	Coordinated
Finance/accounting	Centralized	Centralized	Centralized	Coordinated
Sales/marketing	Mixed	Dispersed	Coordinated	Coordinated
Human resources	Centralized	Centralized	Coordinated	Coordinated
Strategic management	Centralized	Centralized	Centralized	Coordinated

Global Systems to Fit the Strategy

- Configuration, management, and development of systems tend to follow global strategy chosen
- Four main types of systems configuration
 - Centralized: Systems development and operation occur totally at domestic home base
 - Duplicated: Development occurs at home base but operations are handed over to autonomous units in foreign locations
 - Decentralized: Each foreign unit designs own solutions and systems
 - Networked: Development and operations occur in coordinated fashion across all units



Global Strategy and Systems Configurations

SYSTEM CONFIGURATION	Strategy			
	Domestic Exporter	Multinational	Franchiser	Transnational
Centralized	X			
Duplicated			X	
Decentralized	x	X	x	
Networked		x		X

A Typical Scenario: Disorganization on a Global Scale

- Traditional multinational consumer-goods company based in United States and operating in Europe would like to expand into Asia
- World headquarters and strategic management in United States
- Separate regional, national production and marketing centres
- Foreign divisions have separate IT systems
- E-mail systems are incompatible
- Each production facility uses different ERP system, different hardware and database platforms, and so on



Global Systems Strategy (1 of 2)

- Share only core systems
 - Core systems support functionality critical to firm
- Partially coordinate systems that share some key elements
 - Do not have to be totally common across national boundaries
 - Local variation desirable
- Peripheral systems
- Need to suit local requirements only



Global Systems Strategy (2 of 2)

- Define core business processes
- Identify core systems to coordinate centrally
- Choose an approach
 - Piecemeal and grand design approaches tend to fail
- Make benefits clear
 - Global flexibility
 - Gains in efficiency
 - Global markets and larger customer base unleash new economies of scale at production facilities
 - Optimizing corporate funds over much larger capital base

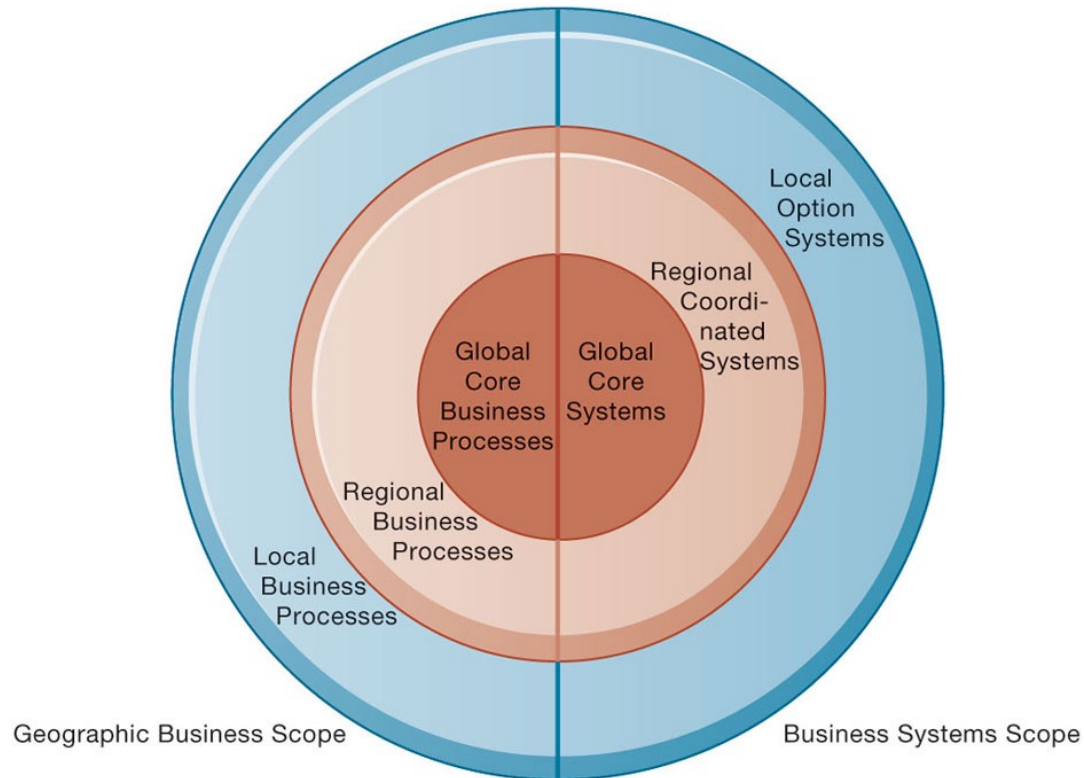


The Management Solution: Implementation (1 of 2)

- Agreeing on common user requirements
 - Short list of core business processes
 - Develop common language, understanding of common elements and unique local qualities
- Introducing changes in business processes
 - Success depends on legitimacy, authority, ability to involve users in change design process
- Coordinating applications development
 - Coordinate change through incremental steps
 - Reduce set of transnational systems to bare minimum



Local, Regional, and Global Systems



The Management Solution: Implementation (2 of 2)

- Coordinating software releases
 - Institute procedures to ensure all operating units update at same time
- Encouraging local users to support global systems
 - Co-optation: Bringing the opposition into design and implementation process without giving up control over direction and nature of the change
 - Permit each country unit to develop one transnational application
 - Develop new transnational centres of excellence



Issues and Technical Alternatives When Developing International Information Systems (1 of 2)

- Computing platforms and systems integration
 - How new core systems will fit in with existing suite of applications developed around globe by different divisions
 - Standardization: Data standards, interfaces, software, and so on
- Connectivity
 - Internet does not guarantee any level of service
 - Many firms use private networks and VPNs
 - Low penetration of PCs, outdated infrastructures in developing countries



Issues and Technical Alternatives When Developing International Information Systems (2 of 2)

- Software
 - Integrating new systems with old
 - Human interface design issues, languages
- Software localization
 - Converting software to operate in second language
- Most important software applications:
 - TPS and MIS
 - SCM, EDI, and enterprise systems
 - Collaboration tools, e-mail, videoconferencing



Internet Population in Selected Countries

