



## Chapter 15

# Managing Global Systems

### VIDEO CASES

*Video Case 1: Daum Runs Oracle Apps on Linux*

*Video Case 2: Lean Manufacturing and Global ERP: Humanetics and Global Shop*

*Video Case 3: Monsanto Uses Cisco and Microsoft to Manage Globally*




## Management Information Systems

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### Learning Objectives

- Describe the major factors driving the internationalization of business.
- Describe the alternative strategies for developing global businesses.
- Explain how information systems support different global business strategies.
- Describe the challenges posed by global information systems and management solutions for these challenges.
- Describe the issues and technical alternatives to be considered when developing international information systems.




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**L'Oréal's Global Makeover**

- **Problem:** Large number of brands, products, locations; complex production process; multiple systems
- **Solution:** SAP's ERP system implemented globally, integrated with Apriso's FlexNet for operations management
- **Demonstrates:** The need for global firms to have global systems for monitoring production
- **Illustrates:** The use of enterprise software to enforce global quality and production standards

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**The Growth of International Information Systems**

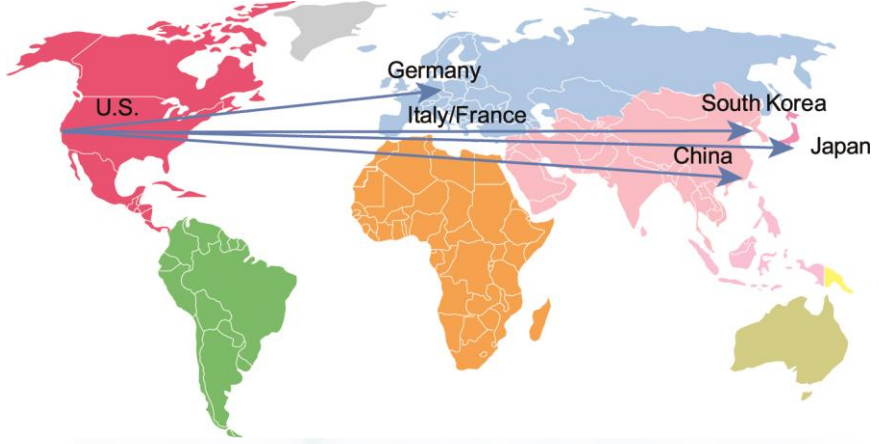
- **Global economic system and global world order driven by advanced networks and information systems**
- **Growth of international trade has radically altered domestic economies around the globe**
- **For example, production of many high-end electronic products parceled out to multiple countries**
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

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**APPLE IPHONE' S GLOBAL SUPPLY CHAIN**



**FIGURE 15-1** Apple designs the iPhone in the United States, and relies on suppliers in the United States, Germany, Italy, France, and South Korea for other parts. Final assembly occurs in China.

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**The Growth of International Information Systems**

- **Strategy when building international systems**
  - **Understand global environment.**
    - Business drivers for global competition
    - Inhibitors creating management challenges
  - **Develop corporate strategy for global competition.**
  - **Develop organization structure and division of labor.**
  - **Consider management issues.**
    - Design of business procedures, reengineering, managing change
  - **Consider technology platform.**

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#### INTERNATIONAL INFORMATION SYSTEMS ARCHITECTURE

The major dimensions for developing an international information systems architecture are the global environment, the corporate global strategies, the structure of the organization, the management and business processes, and the technology platform.

**FIGURE 15-2**



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#### The Growth of International Information Systems

- **Global business drivers:**
  - **General cultural factors lead toward internationalization and result in specific business globalization factors**

GENERAL CULTURAL FACTORS	SPECIFIC BUSINESS FACTORS
Global communication and transportation technologies Development of global culture Emergence of global social norms Political stability Global knowledge base	Global markets Global production and operations Global coordination Global workforce Global economies of scale

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**The Growth of International Information Systems**

- **Challenges and obstacles to global business systems**
  - **General cultural challenges**
    - Cultural particularism
      - Regionalism, nationalism, language differences
    - Social expectations:
      - Brand-name expectations, work hours
    - Political laws
      - Transborder data flow
      - Transborder data and privacy laws, commercial regulations

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**The Growth of International Information Systems**

- **Challenges to global business systems (cont.)**
  - **Specific challenges**
    - Standards
      - Different EDI, e-mail, telecommunication standards
    - Reliability
      - Phone networks not uniformly reliable
    - Speed
      - Different data transfer speeds, many slower than United States
    - Personnel
      - Shortages of skilled consultants

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**The Growth of International Information Systems**

- **State of the art**
  - **Most companies have inherited patchwork international systems using 1960s-era batch-oriented reporting, manual entry of data from one legacy system to another, and little online control and communication**
  - **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

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**Organizing International Information Systems**

- **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

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**Organizing International Information Systems**

**GLOBAL BUSINESS AND STRATEGY**

BUSINESS FUNCTION	DOMESTIC EXPORTER	MULTINATIONAL	FRANCHISER	TRANSNATIONAL
<b>Production</b>	Centralized	Dispersed	Coordinated	Coordinated
<b>Finance/ Accounting</b>	Centralized	Centralized	Centralized	Coordinated
<b>Sales/ Marketing</b>	Mixed	Dispersed	Coordinated	Coordinated
<b>Human Resources</b>	Centralized	Centralized	Coordinated	Coordinated
<b>Strategic Management</b>	Centralized	Centralized	Centralized	Coordinated

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**Organizing International Information Systems**

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

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#### GLOBAL STRATEGY AND SYSTEMS CONFIGURATIONS

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

**FIGURE 15-3** The large Xs show the dominant patterns, and the small Xs show the emerging patterns. For instance, domestic exporters rely predominantly on centralized systems, but there is continual pressure and some development of decentralized systems in local marketing regions.

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#### Organizing International Information Systems

- **To develop a global company and information systems support structure:**
  - 1. Organize value-adding activities along lines of comparative advantage.**
    - For example: Locate functions where they can best be performed, for least cost and maximum impact.
  - 2. Develop and operate systems units at each level of corporate activity—regional, national, and international.**
  - 3. Establish at world headquarters:**
    - Single office responsible for development of international systems
    - Global CIO position

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**Managing Global Systems**

- **Principle management challenges in developing global systems**
  - Agreeing on common user requirements
  - Introducing changes in business processes
  - Coordinating application development
  - Coordinating software releases
  - Encouraging local users to support global systems

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**Managing Global Systems**

- **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
    - Only centrally coordinated system is financial controls and reporting
  - Separate regional, national production and marketing centers
  - 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

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**Managing Global Systems**

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- **Global systems strategy**
  - **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

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**LOCAL, REGIONAL, AND GLOBAL SYSTEMS**


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Agency and other coordination costs increase as the firm moves from local option systems toward regional and global systems. However, transaction costs of participating in global markets probably decrease as firms develop global systems. A sensible strategy is to reduce agency costs by developing only a few core global systems that are vital for global operations, leaving other systems in the hands of regional and local units.



**FIGURE 15-4**

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**Managing Global Systems**

- 1. Define core business processes.**
- 2. Identify core systems to coordinate centrally.**
- 3. Choose an approach:**
  - Piecemeal and grand design approaches tend to fail.
  - Evolve transnational applications incrementally from existing applications.
- 4. 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

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**Managing Global Systems**

- **The management solution: Implementation**
  - **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

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**Managing Global Systems**

- **The management solution (cont.)**
  - **Coordinating software releases**
    - Institute procedures to ensure all operating units update at same time
  - **Encouraging local users to support global systems**
    - Cooptation: 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 centers of excellence

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**Interactive Session: Organizations**

**Hasbro Develops a Global Systems Strategy**  
*Read the Interactive Session and discuss the following questions*

- What problems was Hasbro having with its legacy SAP/R3 enterprise resource planning (ERP) system installed in the 1990s and how did it affect its operations and global strategy?
- What management, organization, and technology issues did Hasbro address in order to implement a new global systems strategy?
- Describe Hasbro's new global systems and the problems they solved. How did they improve operations and management decision making?

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**Technology Issues and Opportunities for Global Value Chains**

- **Technology challenges of global systems**
  - **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

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**INTERNET POPULATION IN SELECTED COUNTRIES**

Country	% Internet Users
Sweden	~95%
U.S.A.	~80%
Brazil	~40%
China	~38%
Tunisia	~38%
Ecuador	~25%
Angola	~5%

**FIGURE 15-5** The percentage of the total population using the Internet in developing countries is much smaller than in the United States and Europe, but it is growing rapidly.

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**Technology Issues and Opportunities for Global Value Chains**

- **Technology challenges of global systems (cont.)**
  - **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

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**Interactive Session: Management**

**CombineNet ASAP Helps Primark Manage its Global Supply Chain**  
*Read the Interactive Session and discuss the following questions*

- Why is supply chain management so important at a company such as Primark?
- What set of business conditions prompted Primark to look into upgrading its supply chain management system?
- What problems was Primark having managing its suppliers and global supply chain?
- How did the CombineNet ASAP software provide a solution to these problems?
- How does the CombineNet ASAP software improve supply chain execution for Primark?

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