Chapter 15
Managing Global Systems

Learning Objectives
- What major factors are driving the internationalization of business?
- What are the alternative strategies for developing global businesses?
- What are the challenges posed by global information systems and management solutions for these challenges?
- What are the issues and technical alternatives to be considered when developing international information systems?

New Systems Help Fiat Become a Global Powerhouse
- **Problem:** Large global organization with fragmented systems and data
- **Solution:** New systems to provide enterprise-wide data for management reporting and analysis
  - Oracle Hyperion Enterprise Performance Management and Business Intelligence
- Demonstrates the need for global firms to have integrated systems for global reporting
- Illustrates the use of enterprise software to provide timely and more accessible information
Video Case: Humanetics and Global Shop Solutions

- [https://www.youtube.com/watch?v=b0y1Q7s9lls](https://www.youtube.com/watch?v=b0y1Q7s9lls)

Factors Driving the Internationalization of Business

- 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

**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.
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.

Factors Driving the Internationalization of Business

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

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<tr>
<th>GENERAL CULTURAL FACTORS</th>
<th>SPECIFIC BUSINESS FACTORS</th>
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<td>Global communication and transportation technologies</td>
<td>Global markets</td>
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<td>Development of global culture</td>
<td>Global production and operations</td>
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<td>Emergence of global social norms</td>
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<td>Global workforce</td>
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<td>Global knowledge base</td>
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</table>
• 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

• 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

• State of the art
  • Most companies have inherited a patchwork international system using traditional 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
• 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 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

- 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
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

Challenges of Global Information 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

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
Agency and other coordination costs increase as the firm moves from local option systems toward regional and global systems. A key advantage of participating in global markets is the ability to 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 options in the hands of regional and local units.

FIGURE 15-4

LOCAL, REGIONAL, AND 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

Challenges of Global Information 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

Challenges of Global Information Systems
Challenges of Global Information Systems

- The management solution (cont.)
  - Coordinating software releases
    - Institute procedures to ensure all operating units update at the 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

Issues and Alternatives in Developing International Systems

- 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

INTERNET POPULATION IN SELECTED COUNTRIES

- 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.
Issues and Alternatives in Developing International Systems

- **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