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

- **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.**

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

- **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**
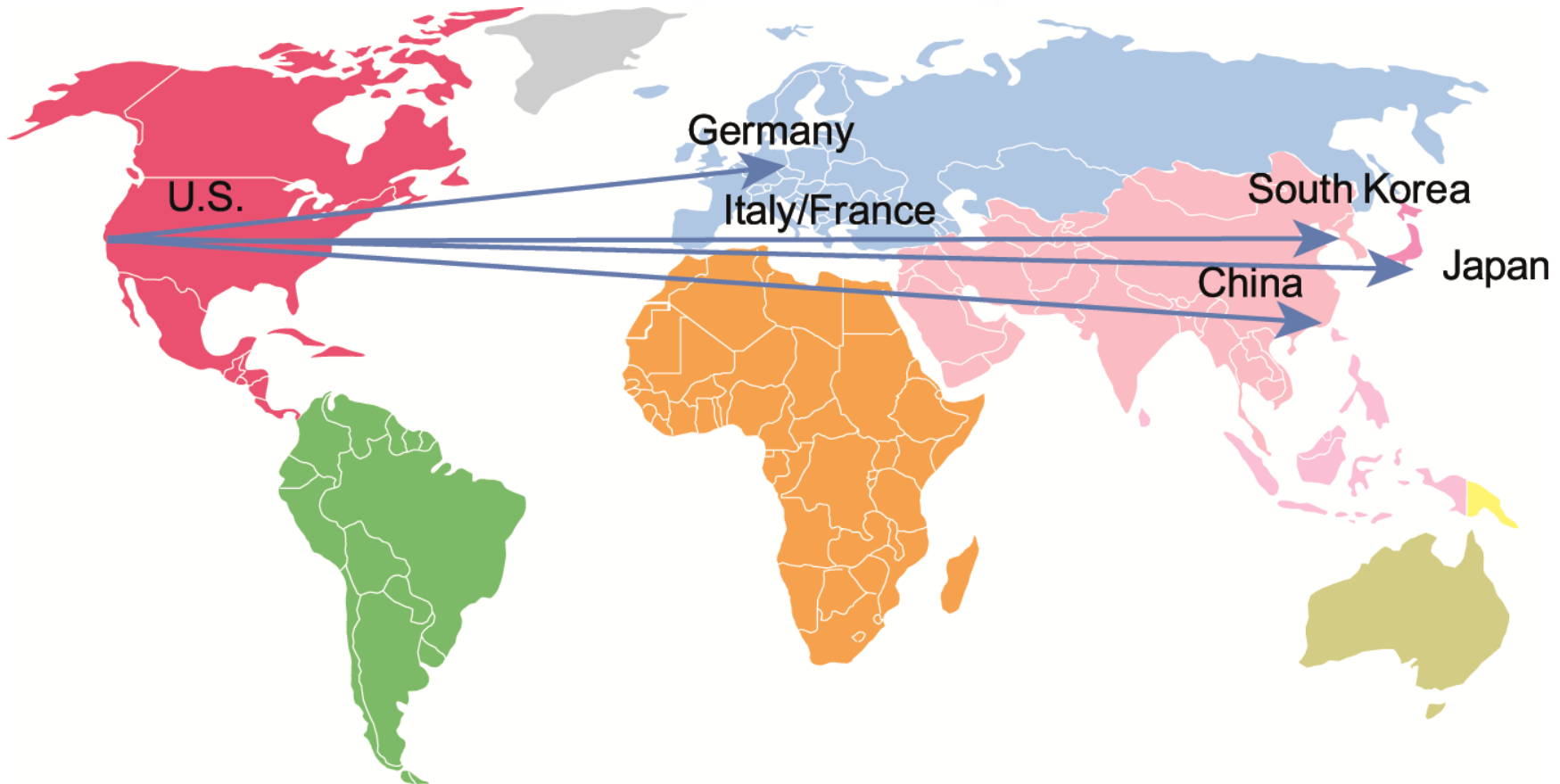
APPLE IPHONE'S GLOBAL SUPPLY CHAIN

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
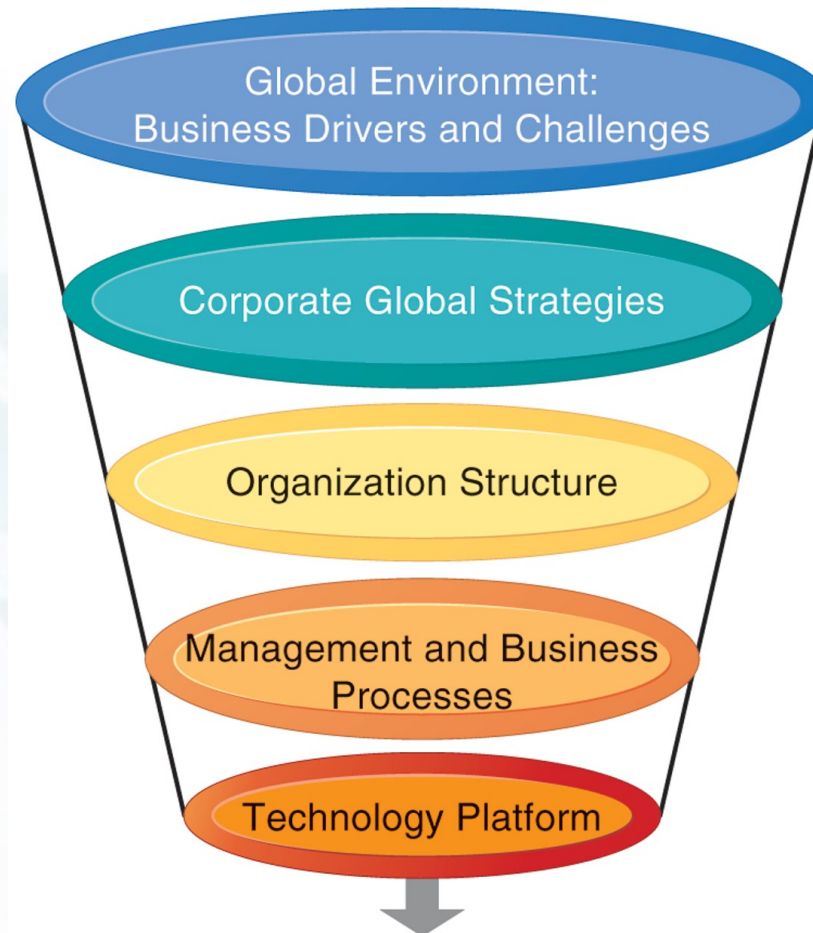 - **Consider technology platform.**

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

Global Environment: Business Drivers and Challenges

Corporate Global Strategies

Organization Structure

Management and Business Processes

Technology Platform

- # 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	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

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

- **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 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

- **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

Organizing International Information Systems

GLOBAL BUSINESS AND STRATEGY

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**
    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

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.

- **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**

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**

- **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**
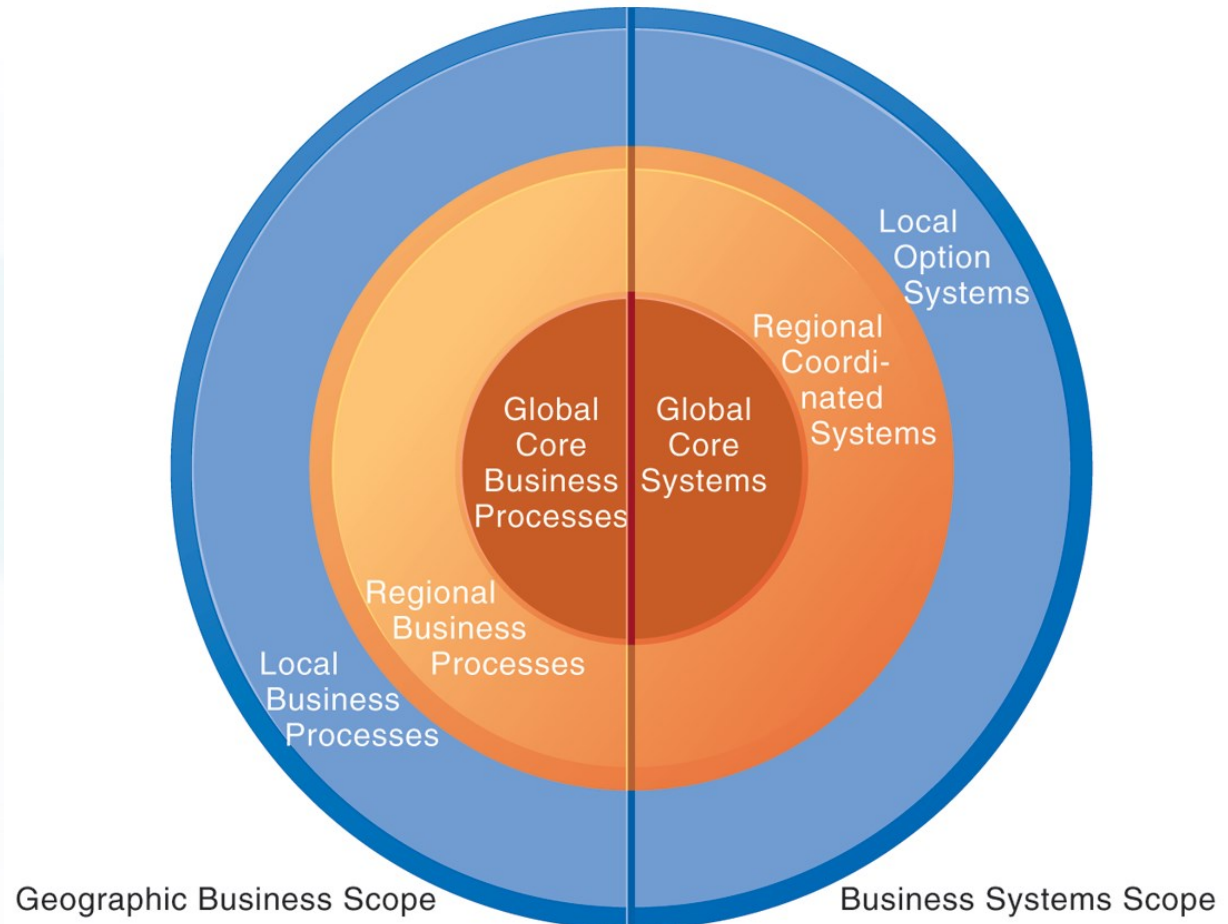   - Need to suit local requirements only

LOCAL, REGIONAL, AND GLOBAL SYSTEMS

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

Geographic Business Scope · Business Systems Scope

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

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

- **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

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?

- **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

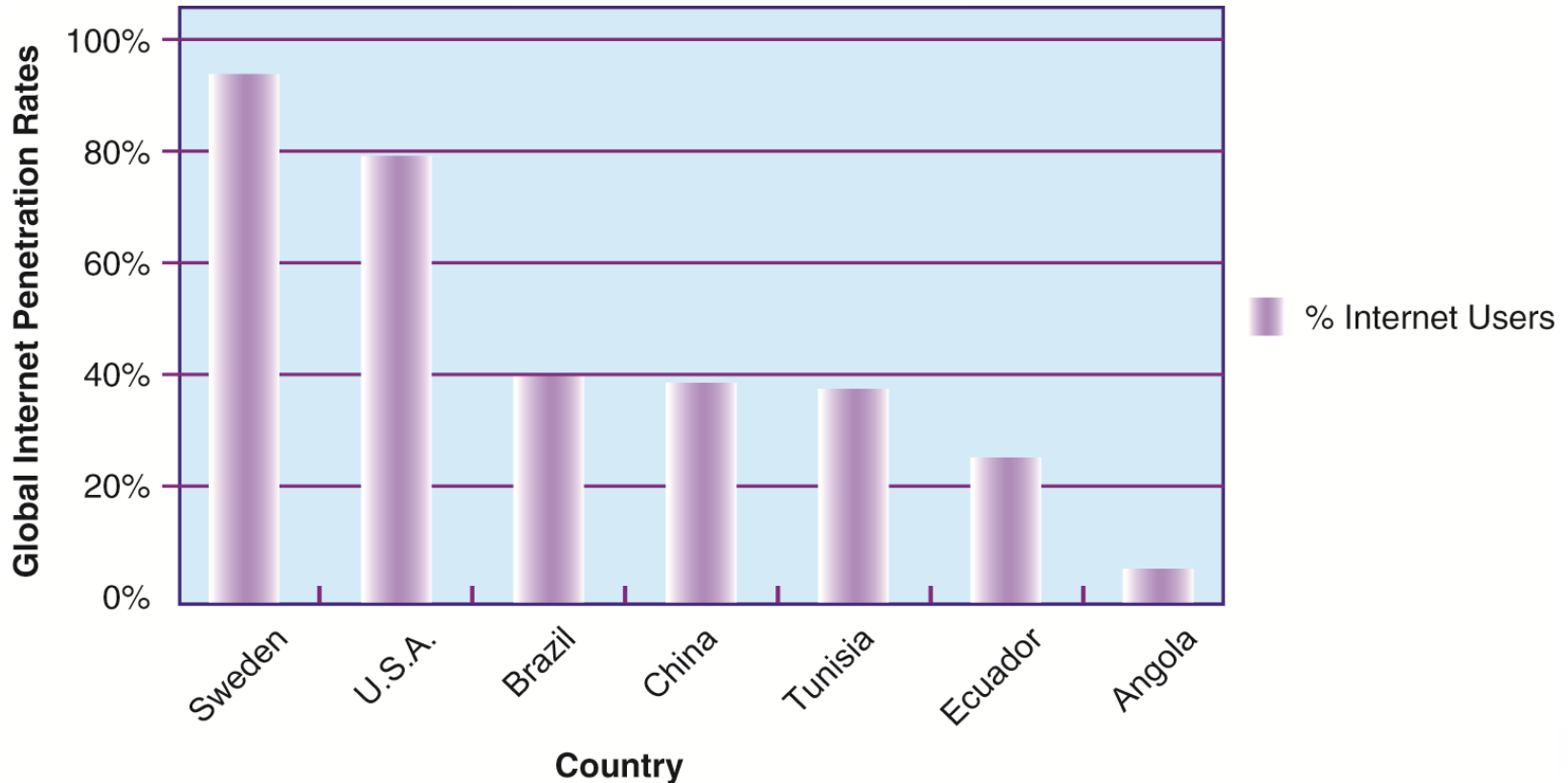## INTERNET POPULATION IN SELECTED COUNTRIES

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.

- **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

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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