
Chapter 7

**E-Supply Chains,
Collaborative Commerce,
Intrabusiness EC, and
Corporate Portals**



Learning Objectives



1. Define the e-supply chain and describe its characteristics and components.
2. List supply chain problems and their causes.
3. List solutions to supply chain problems provided by EC.
4. Define c-commerce and list the major types.
5. Describe collaborative planning and Collaboration, Planning, Forecasting, and Replenishing (CPFR) and list the benefits of each.

Learning Objectives



6. Define intrabusiness EC and describe its major activities.
7. Discuss integration along the supply chain.
8. Understand corporate portals and their types and roles.
9. Describe e-collaboration tools such as workflow software and groupware.

E-Supply Chains



- Definitions and Concepts

- supply chain**

- The flow of materials, information, money, and services from raw material suppliers through factories and warehouses to the end customers

- e-supply chain**

- A supply chain that is managed electronically, usually with Web technologies

E-Supply Chains



- Supply Chain Parts
 - Upstream supply chain
 - Internal supply chain
 - Downstream supply chain

E-Supply Chains



- Managing Supply Chains
 - Managing supply chains can be difficult due to the need to coordinate:
 - Several business partners
 - Several internal corporate departments
 - Numerous business processes
 - Possibly many customers
 - Information technology provides two types of software solutions:
 1. SCM
 2. ERP and its predecessors MRP and MRP II

E-Supply Chains



- Managing e-Supply Chains

- **e-supply chain management (e-SCM)**

- The collaborative use of technology to improve the operations of supply chain activities as well as the management of supply chains

- The success of an e-supply chain depends on:

- The ability of all supply chain partners to view partner collaboration as a strategic asset
 - Information visibility along the entire supply chain
 - Speed, cost, quality, and customer service
 - Integrating the supply chain more tightly

E-Supply Chains



- Activities and Infrastructure of e-SCM
 - Supply chain replenishment
 - E-procurement
 - Supply chain monitoring and control using RFID
 - Collaborative planning
 - Collaborative design and product development
 - E-logistics
 - Use of B2B exchanges and supply webs

E-Supply Chains



- Infrastructure for e-SCM
 - Electronic Data Interchange (EDI)
 - Extranets
 - Intranets
 - Corporate portals
 - Workflow systems and tools
 - Groupware and other collaborative tools

Supply Chain Problems and Solutions



- Typical Problems along the Supply Chain
 - Supply chains can be very long, involving many internal and external partners located in different places
 - Both materials and information must flow among several entities, and these transfers, especially when manually handled, can be slow and error-prone
 - Companies can improve their demand forecasting by using IT-supported forecasts, which are done in collaboration with business

Supply Chain Problems and Solutions



- Typical Problems along the Supply Chain
 - A lack of logistics infrastructure exacerbates uncertainties that exist in delivery times
 - Quality problems with materials and parts can contribute to deficiencies in the supply chain
 - Pure EC companies are likely to have more supply chain problems because they do not have a logistics infrastructure and are forced to use external logistics services

Supply Chain Problems and Solutions



- Typical Problems along the Supply Chain
 - Other problems along the EC supply chain mainly stem from the need to coordinate several activities and internal units and business partners

bullwhip effect

Erratic shifts in orders up and down supply chains

Supply Chain Problems and Solutions



- The Need for Information Sharing along the Supply Chain
 - A supply chain includes the flow of information to and from all participating entities
 - It includes:
 - Product pricing
 - Inventory
 - Shipping status
 - Credit and financial information
 - Technology news

Supply Chain Problems and Solutions



- EC Solutions along the Supply Chain
 - *Order taking* can be done over the Internet, EDI, EDI/Internet, or an extranet, and may be fully automated
 - *Order fulfillment* can become instant if the products can be digitized
 - *Electronic payments* can expedite both the order fulfillment cycle and the payment delivery period

Supply Chain Problems and Solutions



- EC Solutions along the Supply Chain
 - *Managing risk* to avoid supply-chain breakdown can be done in several ways
 - *Inventories can be minimized* by introducing a build-to-order (on-demand) manufacturing process as well as by providing fast and accurate information to suppliers
 - *Collaborative commerce* among members of the supply chain can be done in many areas

Collaborative Commerce



collaborative commerce (c-commerce)

The use of digital technologies that enable companies to collaboratively plan, design, develop, manage, and research products, services, and innovative EC applications

collaboration hub

The central point of control for an e-market. A single c-hub, representing one e-market owner, can host multiple collaboration spaces (c-spaces) in which trading partners use c-enablers to exchange data with the c-hub

Collaborative Commerce



- Mobile Collaborative Networks and Grid Computing

grid computing

A form of distributed computing that involves coordinating and sharing computing, application, data, storage, or network resources across dynamic and geographically dispersed organizations

- Mobile networks have the ability to share valuable business information in mobile scenarios with those who are co-located or remote and who are not necessarily from the same enterprise

Collaborative Commerce



grid computing

A form of distributed computing that involves coordinating and sharing computing, application, data, storage, or network resources across dynamic and geographically dispersed organizations

vendor managed inventory (VMI)

The practice of retailers making suppliers responsible for determining when to order and how much to order

Collaborative Commerce



- **RFID Technology Contributes Value at Three Levels**
 - Immediate value
 - Short-term value
 - Long-term value
- **Limitations of RFID**
 - For small companies, the cost of the system may be too high
 - Radio frequency interference and RFID's limited range (30 to 50 feet) also may be problematic

Collaborative Commerce



- Collaborative Commerce and Knowledge Management
 - *Knowledge management* is the process of capturing or creating knowledge
 - C-commerce is essentially an integration of KM, EC, and collaboration tools and methodologies that are designed to carry out transactions and other activities within and across organizations

Collaborative Commerce



- Barriers to C-Commerce
 - Technical reasons involving integration, standards, and networks
 - Security and privacy concerns
 - Internal resistance to information sharing and to new approaches
 - Lack of internal skills to conduct collaborative commerce
 - Lack of defined and universally agreed-upon standards

Collaborative Planning, CPFR, and Collaborative Design



collaborative planning, forecasting, and replenishment (CPFR)

Project in which suppliers and retailers collaborate in their planning and demand forecasting to optimize flow of materials along the supply chain

Collaborative Planning, CPFR, and Collaborative Design



advanced planning and scheduling (APS) systems

Programs that use algorithms to identify optimal solutions to complex planning problems that are bound by constraints

product lifecycle management (PLM)

Business strategy that enables manufacturers to control and share product-related data as part of product design and development efforts

Internal Supply Chain Solutions: Intrabusiness and B2E



- The internal parts of the supply chain are related to the value chain and include:
 - Inbound logistics
 - Production processes
 - Outbound logistics
 - Marketing and sales
 - Customer services

Internal Supply Chain Solutions: Intrabusiness and B2E



intrabusiness EC

E-commerce activities conducted *within* an organization

- Intrabusiness can be done:
 1. Between a business and its employees
 2. Between units within the business
 3. Among employees in the same business

Internal Supply Chain Solutions: Intrabusiness and B2E



business-to-employee (B2E)

Intrabusiness EC in which an organization delivers products or services to its employees

Internal Supply Chain Solutions: Intrabusiness and B2E



- Some Representative Applications of B2E include:
 - Providing field representatives and employees in yards, warehouses, and other non-office places with electronic communication tools
 - Training and education provided over intranets
 - Employee use of desktop purchasing
 - Employee use of the corporate intranet for both corporate and personal use to purchase discounted insurance, travel packages, and tickets to events

Internal Supply Chain Solutions: Intrabusiness and B2E



- Providing office employees with electronic tools for communication, collaboration, and information discovery
- Offering corporate stores on the intranet that sell the companies' products to their own employees, usually at a discount
- Systems that disseminate information or allow employees to manage their fringe benefits via the intranet

Internal Supply Chain Solutions: Intrabusiness and B2E



- Activities between Business Units
 - Transactions between *strategic business units* can be easily automated and performed over the organization's intranet
- Activities among Corporate Employees
 - Many large organizations also provide a system by which employees can collaborate on an individual (sometimes nonbusiness) level

Integration along the Supply Chain



- Enabling Integration
 - To ease the task of integration, vendors have developed integration methodologies and special software called *middleware*
 - In addition, major efforts are being undertaken to develop standards and protocols that will facilitate integration

Corporate (Enterprise) Portals



corporate (enterprise) portal

A gateway for entering a corporate Web site, enabling communication, collaboration, and access to company information

- Reasons for implementing corporate portals:
 - To cut costs
 - To free up time for busy executives and managers
 - To add to the bottom line

Corporate (Enterprise) Portals



- Types of Generic Portals
 - Portals for suppliers and other partners
 - Customer portals
 - Employee portals
 - Executive and supervisor portals
 - Mobile portals

mobile portals

Portals accessible via mobile devices, especially cell phones and PDAs

Corporate (Enterprise) Portals



- Functionalities of Portals

information portals

Portals that store data and enable users to navigate and query these data

collaborative portals

Portals that allow collaboration

Corporate (Enterprise) Portals



- Corporate Portal Applications
 - Knowledge bases and learning tools
 - Business process support
 - Customer-facing (front-line) sales, marketing, and services
 - Collaboration and project support
 - Access to data from disparate corporate systems
 - Personalized pages for various users

Corporate (Enterprise) Portals



- Corporate Portal Applications
 - Effective search and indexing tools
 - Security applications
 - Best practices and lessons learned
 - Directories and bulletin boards
 - Identification of experts
 - News
 - Internet access

Collaboration-Enabling Tools



workflow

The movement of information as it flows through the sequence of steps that make up an organization's work procedures

workflow systems

Business process automation tools that place system controls in the hands of user departments to automate information processing tasks

workflow management

The automation of workflows, so that documents, information, and tasks are passed from one participant to the next in the steps of an organization's business process

Collaboration-Enabling Tools



- Types of Workflow Applications
 - Collaborative workflow
 - Production workflow
 - Administrative workflow
- The benefits of workflow management systems include:
 - Improved control of business processes
 - Improved quality of services

Collaboration-Enabling Tools



- The benefits of workflow management systems include:
 - Lower staff training costs
 - Lower management costs, which enables managers to concentrate on nurturing employees and handling special cases rather than on routine reporting and distribution issues
 - Improved user satisfaction

Collaboration-Enabling Tools



- **Groupware: Collaboration Tools**

- groupware**

- Software products that use networks to support collaboration among groups of people who share a common task or goal

Collaboration-Enabling Tools



- Synchronous versus asynchronous products
 - *synchronous* communication and collaboration are done in real time
 - Web conferencing
 - Instant messaging
 - Voice-over-IP (VOIP)
 - *asynchronous* communication and collaboration are done by the participants at different times
 - Databases
 - Browsers
 - *Online workspaces*

Collaboration-Enabling Tools



virtual meetings

Online meetings whose members are in different locations, even in different countries

group decision support system (GDSS)

An interactive computer-based system that facilitates the solution of semi-structured and unstructured problems by a group of decision makers

Collaboration-Enabling Tools



- Real-Time Collaboration Tools
 - *Real-time collaboration (RTC) tools* help companies bridge time and space to make decisions and collaborate on projects
 - RTC tools support synchronous communication of graphical and text-based information
 - These tools are used in distance training, product demonstrations, customer support, e-commerce, and sales applications

Collaboration-Enabling Tools



- Electronic Teleconferencing
teleconferencing

The use of electronic communication that allows two or more people at different locations to have a simultaneous conference

video teleconference

Virtual meeting in which participants in one location can see participants at other locations on a large screen or a desktop computer

Collaboration-Enabling Tools



- Electronic Teleconferencing
data conferencing

Virtual meeting in which geographically dispersed groups work on documents together and exchange computer files during videoconferences

Voice-over-IP (VOIP)

Communication systems that transmit voice calls over Internet Protocol-based networks

Collaboration-Enabling Tools



- Other Groupware Tools

- Interactive whiteboards

- screen sharing**

- Software that enables group members, even in different locations, to work on the same document, which is shown on the PC screen of each participant

- Instant video

- virtual reality (VR)**

- System that delivers interactive computer-generated 3D graphics to a user through a head-mounted display

Collaboration-Enabling Tools



- Implementation Issues for Online Collaboration
 - An organization needs an effective collaborative environment
 - The need to connect collaborative tools with file management products on an organization's intranet
 - Protocols are needed for easy integration of different applications and for standardizing communication

Managerial Issues



1. How difficult is it to introduce e-collaboration?
2. How much can be shared with business partners? Can they be trusted?
3. Who is in charge of our portal and intranet content?
4. Who will design the corporate portal?
5. Should we conduct virtual meetings?

Summary



1. The e-supply chain, its characteristics, and its components.
2. Supply chain problems and their causes.
3. Solutions to supply chains problems provided by EC.
4. C-commerce: Definitions and types.
5. Collaborative planning and CPFR.
6. Intrabusiness EC.
7. Integration along the supply chain.
8. Types and roles of corporate portals.
9. Collaborative tools.