



Unit-4

The digital firm –
Electronic business / Electronic commerce

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- **Electronic Business, Electronic Commerce And The Emerging Digital Firm**
- **Electronic commerce**
- **Electronic business and the digital firm**
- **Management opportunities, challenges and solutions**

Objective

- Analyze how Internet technology has changed value propositions and business models
- Define electronic commerce and describe how it has changed consumer retailing and business-to-business transactions
- Compare the principal payment systems for electronic commerce
- Evaluate the role of Internet technology in facilitating management and coordination of internal and interorganizational business processes
- Assess the challenges posed by electronic business and electronic commerce and management solutions

Internet Technology and the Digital Firm

- **Information technology infrastructure:** The Internet provides a universal and easy-to-use set of technologies and technology standards that can be adopted by all organizations.
- **Direct communication between trading partners:** Disintermediation removes intermediate layers and streamlines processes.

- **Round the clock service:** Web sites available to consumers 24 hours
- **Information based products** , such as s/w, music and videos can be distributed via internet.
- **Extended distribution channels:** replace existing distribution channel or extend them, creating Outlets for attracting customers who otherwise would not patronize a firm
- **Reduced transaction costs:** info on buyers, sellers and prices for many products is immediately available on the web. Eg: manually processing single customer order can cost \$15, while using web based system the cost drops to \$0.80.

TABLE 4-1 How the Internet Reduces Transaction Costs

| Transaction | Traditional | Internet |
|---------------------------------|----------------|---|
| Checking a bank account balance | \$1.08 | \$0.13 |
| Answering a customer question | \$10–\$45 | Answering an e-mail query: \$1–\$5 Web self-service: \$0.10–\$0.20 |
| Trading 100 shares of stock | \$100 | \$9.95 |
| Correcting an employee record | \$128 | \$2.32 |
| Processing an expense report | \$36, 22 days | \$4–\$8, 72 hours |
| Sending an advertising brochure | \$0.75–\$10.00 | \$0–\$0.25 |
| Paying a bill | \$2.22–\$3.32 | \$0.65–\$1.10 |

New Business Models and Value Propositions

- The Internet has introduced major changes in the way companies conduct business.
- It has created a dramatic decline in the cost of developing, sending, and storing information while making that information more widely available.
- Millions of people are able to exchange massive amounts of information directly, instantly, and for free.
- In the past, information about products and services was usually tightly bundled with the physical value chain for those products and services.
- If a consumer wanted to find out about the features, price, and availability of a refrigerator or an automobile, for instance, that person had to visit a retail store that sold those products. The cost of comparison shopping was very high because people had to physically travel from store to store.

- The Internet has changed that relationship. Once everyone is connected electronically, information about products and services flows on its own directly and instantly to consumers.
- The traditional link between the flow of the product and the flow of product-related information is broken. Information is not limited to traditional physical methods of delivery.
- Customers can find out about products on their own on the Web and buy directly from product suppliers instead of using intermediaries, such as retail stores.

- for example, in pre-Internet retailing days, people who wanted to purchase books had to go to a physical bookstore to learn which titles were available, the books' contents, and prices. The bookstore had a monopoly on this information.
- When Amazon.com opened as an online bookstore, it provided visitors to its Web site with a vast electronic catalog containing close to 3 million titles, along with tables of contents, reviews, and other information about those titles. People could order books directly from their desktop computers.
- Amazon.com was able to sell books at lower cost because it did not have to pay rent, employee salaries, warehousing, and other overhead to maintain physical retail bookstores. Selling books and other goods directly to consumers online without using physical storefronts represents a new business model.

The changing economics of information

- **Search costs** : lower search cost-the effort to find suitable products and to find all the suppliers, prices and delivery terms for a specific product anywhere in the world.
- **Information asymmetry**: One party in a transaction has more information than the other. The Internet decreases information asymmetry.
- **Increases richness**: The Internet increases the depth, detail, and scope of information-the amt of info the business can supply to the customer as well as info the business collects about the customer.
- **Increases reach**: The Internet increases the number of people who can be contacted efficiently.

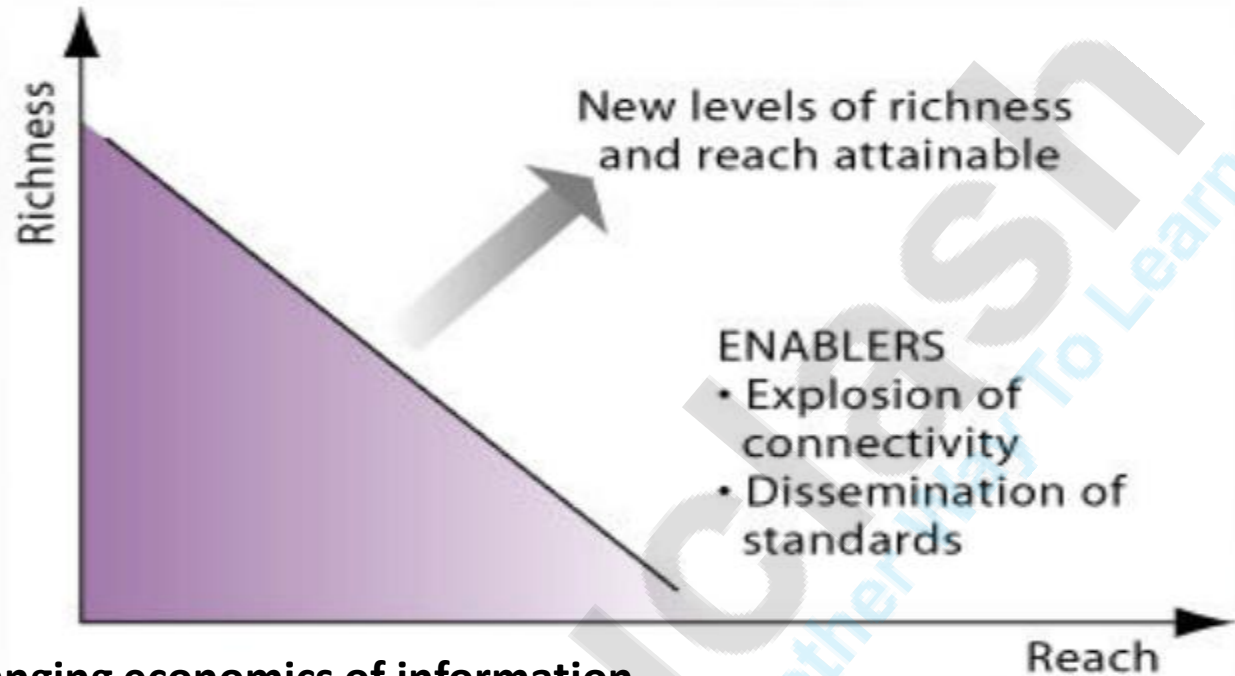


FIGURE The changing economics of information

In the past, companies have had to trade off between the richness and reach of their information. Internet connectivity and universal standards for information sharing radically lower the cost of providing rich, detailed information to large numbers of people, reducing the trade-off.

The Internet has transformed the richness and reach relationships (Figure Using the Internet and Web multimedia capabilities, companies are able to provide detailed product information quickly and inexpensively and detailed information specific to each customer to very large numbers of people simultaneously

Internet business models

- The Internet helps companies create and capture profit in new ways by adding extra value to existing products and services or by providing the foundation for new products and services.
- Business-to-business auctions are proliferating as well.eg GoIndustry features web based auction services for business-to-business sales of used and heavy industrial equipments and machinery.
- Online bidding, also known as dynamic pricing is expected to grow rapidly as buyers and sellers can interact easily.

Internet Business Models

| Category | Description | Examples |
|-------------------------|---|---|
| Virtual storefront | Sells physical products directly to consumers or to individual businesses. | Amazon.com EPM.com |
| Information broker | Provides product, pricing, and availability information to individuals and businesses. Generates revenue from advertising or from directing buyers to sellers. | Edmunds.com Kbb.com Insweb.com Realtor.com |
| Transaction broker | Saves users money and time by processing online sales transactions, generating a fee each time a transaction occurs. Also provides information on rates and terms. | E*TRADE.com Expedia.com |
| Online marketplace | Provides a digital environment where buyers and sellers can meet, search for products, display products, and establish prices for those products. Can provide online auctions or reverse auctions in which buyers submit bids to multiple sellers to purchase at a buyer-specified price as well as negotiated or fixed pricing. Can serve consumers or B2B e-commerce, generating revenue from transaction fees. | eBay.com Priceline.com ChemConnect.com Pantellos.com |
| Content provider | Creates revenue by providing digital content, such as digital news, music, photos, or video, over the Web. The customer may pay to access the content, or revenue may be generated by selling advertising space. | WSJ.com CNN.com TheStreet.com GettyImages.com MP3.com |
| Online service provider | Provides online service for individuals and businesses. Generates revenue from subscription or transaction fees, from advertising, or from collecting marketing information from users. | @Backup.com Xdrive.com Employease.com Salesforce.com |
| Virtual community | Provides an online meeting place where people with similar interests can communicate and find useful information. | Motocross.com Friendster.com iVillage.com Sailnet.com |
| Portal | Provides initial point of entry to the Web along with specialized content and other services. | Yahoo.com MSN.com StarMedia.com |



Friendster.com is an Internet business based on creating an online community for social networking. The company generates revenue from advertising sponsors.

- A **banner ad** on a web page used for advertising. The banner is linked to the advertiser's web site so that a person clicking on it will be transported to the advertiser's web site.
- **Pop-up** ads opens automatically and does not disappear until the user clicks on it.
- **Portal** –website or other service that provides an initial point of entry to the web or to the internal company data.

- Yahoo! is an example. It provides capabilities for locating information on the Internet along with news, sports, weather, telephone directories, maps, games, shopping, e-mail, chat, discussion boards, and links to other sites.

Electronic Commerce

- **Categories of Electronic Commerce:**
- The three major electronic commerce categories are business-to-consumer (B2C) e-commerce, business-to-business (B2B) e-commerce, and consumer-to-consumer (C2C) e-commerce.

Business-to-customer (B2C): Retailing of products and services directly to individual customers (Wal-Mart.com)

Business-to-business (B2B): Sales of goods and services to other businesses (Grainger.com, Ariba.com)

Consumer-to-consumer (C2C): Individuals using the Web for private sales or exchange (eBay.com), eBay, the giant Web auction site, enables people to sell their goods to other consumers by auctioning the merchandise off to the highest bidder.

Customer-centered retailing

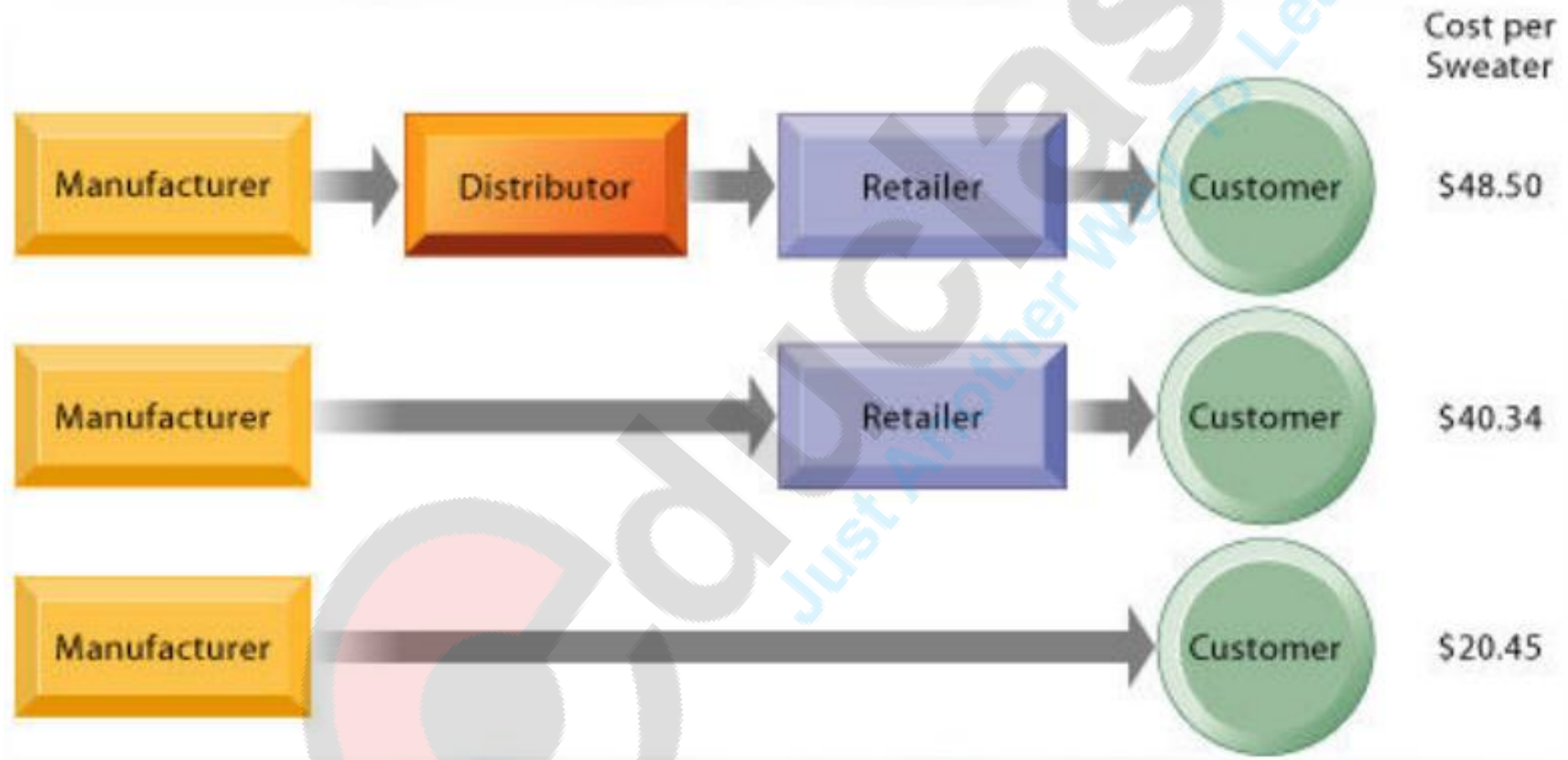
- Despite many failures of dot-com retail companies since mid 2000 , online retailing continues to grow at a brisk pace.
- The internet provides companies with new channels of communication and interaction that can create closer yet more cost effective relationships with customers in sales, marketing and customer support.
- Companies can use the web to provide ongoing info, service and support creating positive interactions with customers that can serve as the foundations for long term relationships and repeat purchases.

Direct sales over Web sites

- Provide a corporate-centered portal for the consumer to quickly find information on products, services, prices, orders
- **Disintermediation:** The elimination of organizations or business process layers responsible for certain intermediary steps in a value chain, reducing costs to the consumer eg: Amazon.com do not have large expenditures for rent, sales staff and the other operations associated with a traditional retail store. Airline can sell tickets directly to customers without paying to agents.

- **Reintermediation:** The shifting of the intermediary role in a value chain to a new source, adding additional value to the consumer. Eg. Intermediaries such as real state agents may be replaced by new “service hubs” specializing in helping internet users reduce search cost , tailor offerings more precisely to their needs, obtain assurances about quality, and handle product complexity.

The Benefits of Disintermediation to the Consumer



The typical distribution channel has several intermediary layers, each of which adds to the final cost of a product, such as a sweater.

Removing layers lowers the final cost to the consumer.

Interactive Marketing and Personalization

- Marketers are using the interactive features of Web pages to hold consumers' attention or to capture detailed information about consumer tastes and interests for one-to-one marketing .
- Web sites have become a bountiful source of detailed information about customer behavior, preferences, needs, and buying patterns that companies can use to tailor promotions, products, services, and pricing.
- Interactive marketing and personalization done in different ways:
 - (1) Click stream tracking tool
 - (2) Web Personalization
 - (3) Collaborative filtering
 - (4) Blog

Clickstream tracking tools:

- Collect data on customer activities at Web sites and store them in a log
- The tools record the site that users visited prior to coming to a particular Web site and where these users go when they leave that site.
- They also record the specific pages visited on the particular site, the time spent on each page of the site, the types of pages visited, and what the visitors purchased .
- Firms can analyze this information about customer interests and behavior to develop precise profiles of existing and potential customers.

Web Site Visitor Tracking

Click 1

The shopper clicks on the home page. The store can tell that the shopper arrived from the Yahoo portal at 2:30 PM (which might help determine staffing for customer service centers) and how long she lingered on the home page (which might indicate trouble navigating the site).

Click 2

Click 3

Click 4

Click 5

The shopper clicks on blouses, clicks to select a woman's white blouse, then clicks to view the same item in pink. The shopper clicks to select this item in a size 10 in pink and clicks to place it in her shopping cart. This information can help the store determine which sizes and colors are most popular.

Click 6

From the shopping cart page, the shopper clicks to close the browser to leave the Web site without purchasing the blouse. This action could indicate the shopper changed her mind or that she had a problem with the Web site's checkout and payment process. Such behavior might signal that the Web site was not well designed.

E-commerce Web sites have tools to track a shopper's every step through an online store. Close examination of customer behavior at a Web site selling women's clothing shows what the store might learn at each step and what actions it could take to increase sales

Web Personalization

- Communications and product offerings can be tailored precisely to individual customers.
- Firms can create unique personalized Web pages that display content or ads for products or services of special interest to each user, improving the customer's experience and creating additional value .
- Using Web personalization technology to modify the Web pages presented to each customer, marketers achieve the benefits of using individual salespeople at dramatically lower costs.
- Personalization can also help firms form lasting relationships with customers by providing individualized content, information, and services.



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- Egs:
 - Amazon.com retains info on each customer's purchases. When a customer returns to the website, the person will be greeted with a web page recommending books based on that person's purchase history.
 - Dell computer allows users to create their own personal "dell sites", where Dell can offer them special prices and deals based on the information they provide about their interests and computing requirements.

- M-commerce and Next Generation Marketing
 - Mobile commerce will provide businesses with additional channels for reaching customers and with new opportunities for personalization.
 - Location tracking s/w in some of these devices will enable businesses to track user's movements and supply info, ads and other services such as weather reports or directions to nearest restaurant , while they are on go.

Collaborative filtering:

- Compares information gathered about a specific user's behavior at a Web site to data about other customers with similar interests to predict what the user would like to see next. The software then makes recommendations to users based on their assumed interests.

Blogs

- Blogs have emerged as another promising Web-based tool for marketing.
- A blog, the popular term for Weblog, is an informal yet structured Web site where individuals can publish stories, opinions, and links to other Web sites of interest.
- Many users subscribe to a blog site, post their views and opinions, and create links to and from other blogs or Web site.
- Most blogs are published by individuals, but corporate blogs have emerged as useful marketing tools.
- Blogs provide a more personal way of presenting information to the public and prospective customers about new products and services.
- For example, Macromedia, which makes Flash, Dreamweaver, Fireworks and Cold Fusion software for multimedia applications, uses weblogs to nurture ties with customers and introduce them to new features in its software.
- The blogs provide a forum where managers can discuss the new products, show developers how to use the new features, answer questions, and obtain customer feedback. Some companies also use blogs internally to communicate and exchange ideas about projects and company news.

Customer self-service:

- The web and other network technologies are inspiring new approaches to customer service and support.
- The use of Web sites to provide customers with access to information and answers to questions .
- The web provides a medium through which customers can interact with the company, at the customers' convenience and find info that previously required a human –customer support expert.
- Companies are realizing substantial cost savings from web based customer service applications.
- New software products are even integrating the web with customer call centers.
- Replacing human call center operators and clerks
- UPS.com: Customer tracking of packages
- Orbitz.com: Customer self-help for organizing and managing a trip

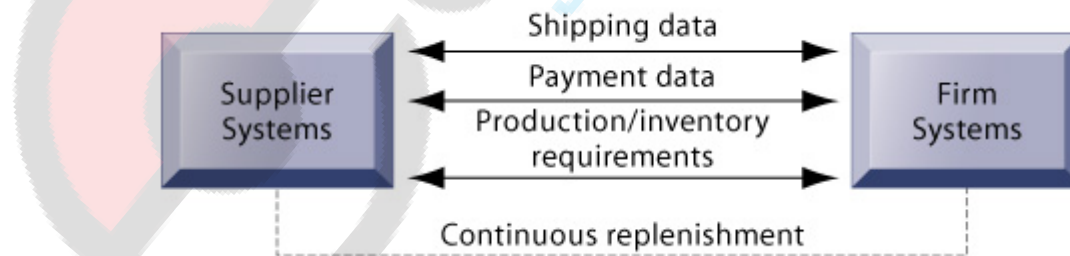
Business-to-Business Electronic Commerce: New Efficiencies and Relationships

(1) Electronic Data Interchange(EDI):

- Today, about 80 percent of B2B e-commerce is based on proprietary systems for electronic data interchange (EDI)
- Electronic data interchange (EDI) enables the computer-to-computer exchange between two organizations of standard transactions, such as invoices, shipment schedules, or purchase orders.
- Transactions are automatically transmitted from one information system to another through a network, eliminating the printing and handling of paper at one end and the inputting of data at the other.
- Each major industry in the United States and much of the rest of the world has EDI standards that define the structure and information fields of electronic documents for that industry.

- EDI originally automated the exchange of documents such as purchase orders, invoices, and shipping notices. Although some companies still use EDI for document automation, firms engaged in just-in-time inventory replenishment and continuous production use EDI as a system for continuous replenishment.
- Suppliers have online access to selected parts of the purchasing firm's production and delivery schedules and automatically ship materials and goods to meet prespecified targets without intervention by firm purchasing agents

Companies use EDI to automate transactions for B2B e-commerce and continuous inventory replenishment. Suppliers can automatically send data about shipments to purchasing firms. The purchasing firms can use EDI to provide production and inventory requirements and payment data to suppliers.



(2)Procurement:

- Procurement involves not only purchasing goods and materials but also sourcing, negotiating with suppliers, paying for goods, and making delivery arrangements.
- Businesses can now use the Internet to locate the most low-cost supplier, search online catalogs of supplier products, negotiate with suppliers, place orders, make payments, and arrange transportation.
- E-procurement over the Internet provides new opportunities for lowering costs and improving service because Internet technology enables businesses to cast their nets more widely

(3) Private Industrial Network:

- Private industrial networks are B2B extranets that focus on continuous business process coordination between companies for collaboration and supply chain management.
- A private industrial network typically consists of a large firm using an extranet to link to its suppliers and other key business partners

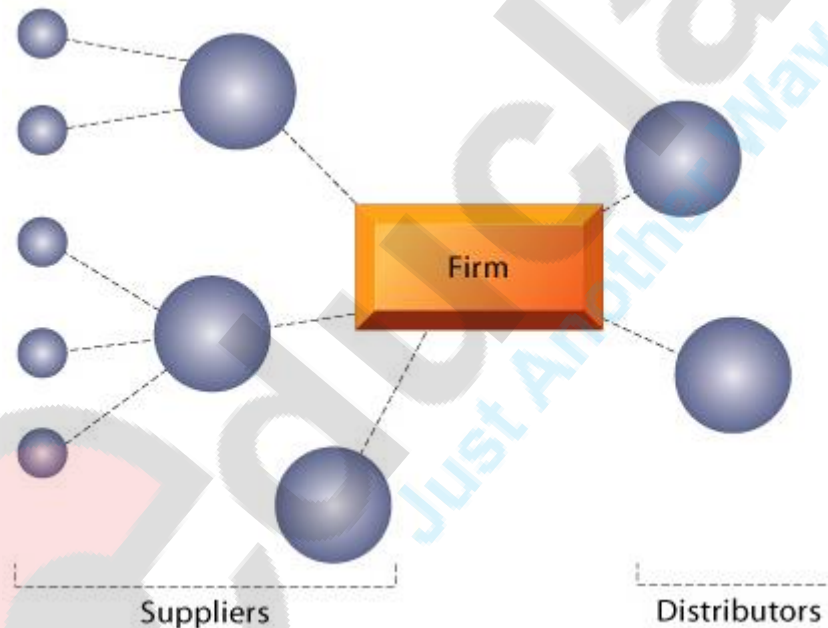


Fig: A private industrial network

A private industrial network, also known as a private exchange, links a firm to its suppliers, distributors, and other key business partners for efficient supply chain management and other collaborative activities.

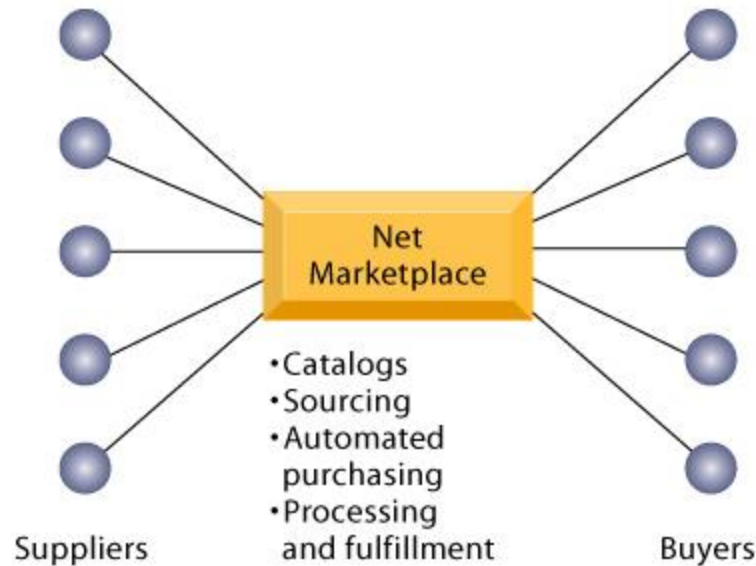
Net Marketplace

- Net marketplaces, which are sometimes called e-hubs, provide a single digital marketplace based on Internet technology for many different buyers and sellers.
- They are industry-owned or operate as independent intermediaries between buyers and sellers.
- Net marketplaces are more transaction oriented (and less relationship oriented) than private industrial networks, generating revenue from purchase and sale transactions and other services provided to clients.
- Participants in Net marketplaces can establish prices through online negotiations, auctions, or requests for quotations, or they can use fixed prices.
- Customers benefit from lower search costs, lower transaction costs, and wider selection

- Four different types of Net Marketplaces
 - Distributors: B2B online catalogs provide buyers with access to thousands of parts and other goods (Grainger.com)
 - Procurement platforms: Platforms for purchasing goods and materials and also sourcing, negotiating with suppliers, paying for goods, and making delivery arrangements (Ariba.com)
 - Independent exchanges: Third-party Net marketplace that is primarily transaction-oriented and that connects many buyers and suppliers for spot purchasing (Freemarkets.com, GEPolymerland.com)
 - Industry consortia: Industry-owned Net marketplaces used primarily for long-term sourcing of direct inputs to production (ChemConnect.com)

Private Industrial Networks

- The largest Web-based form of B2B commerce
- Private B2B extranets that focus on continuous business process coordination between a small group of companies for collaboration and supply chain management.
- Wal-Mart uses its own private network to coordinate more than 15,000 suppliers to its stores.



Net marketplaces are online marketplaces where multiple buyers can purchase from multiple sellers.

- There are many different types of Net marketplaces and ways of classifying them.
- Some Net marketplaces sell direct goods and some sell indirect goods.
- Direct goods are goods used in a production process, such as sheet steel for auto body production.
- Indirect goods are all other goods not directly involved in the production process, such as office supplies or products for maintenance and repair.
- Some Net marketplaces support contractual purchasing based on long-term relationships with designated suppliers, and others support short-term spot purchasing, where goods are purchased based on immediate needs, often from many different suppliers.
- Some Net marketplaces serve vertical markets for specific industries, such as automobiles, telecommunications, or machine tools, whereas others serve horizontal markets for goods and services that can be found in many different industries, such as office equipment or transportation.

Electronic Commerce Payment Systems

- Electronic payment systems have been developed to pay for goods electronically on the Internet.
- Electronic payment systems for the Internet include systems for
 - credit card payments,
 - digital cash,
 - digital wallets,
 - accumulated balance digital payment systems,
 - stored value payment systems,
 - peer-to-peer payment systems,
 - Digital cash, and
 - electronic billing presentment and payment systems

- Digital credit card payments systems: extend the functionality of credit cards so they can be used for online shopping payments.
- Digital wallet: securely stores credit card and owner identification info and provides that info at an e-commerce site's checkout counter.
- Accumulated balance digital payment systems: allow users to make micropayments , accumulating a debit balance that they must pay periodically on their credit card.
- stored value payment systems: enable consumers to make instant online payments to merchants and others based on value stored in a digital a/c(smart cards).

- peer-to-peer payment systems: is to serve people who want to send money to vendors or individuals who are not set up to accept credit card payments.
- Digital Cash: currency represented in electronic form that moves outside the normal network of money. Eg. eCoin.net.
- Electronic billing presentment and payment systems: used for paying routinely monthly bills.

Payment System

Digital credit card payment systems

Digital wallet

Accumulated balance payment systems

Stored value payment systems

Digital cash

Peer-to-peer payment systems

Digital checking

Electronic billing presentment and payment systems

Example of Electronic Commerce Payment Systems

| Payment System | Description | Commercial Example |
|--|---|---|
| Digital credit card payment systems | Secure services for credit card payments on the Internet that protect information transmitted among users, merchant sites, and processing banks | eCharge |
| Digital wallet | Software that stores credit card and other information to facilitate payment for goods on the Web | MSN Wallet MasterCard Wallet AOL Quick Checkout |
| Accumulated balance payment systems | Accumulates micropayment purchases as a debit balance that must be paid periodically on credit card or telephone bills | Trivnet PaymentOne |
| Stored value payment systems | Enables consumers to make instant payments to merchants based on value stored in a digital account | Ecount American Express Blue smart card |
| Digital cash | Digital currency that can be used for micropayments or larger purchases | eCoin.net |
| Peer-to-peer payment systems | Sends money using the Web to individuals or vendors who are not set up to accept credit card payments | PayPal Yahoo PayDirect |
| Digital checking | Electronic check with a secure digital signature | Western Union MoneyZap Echeck |
| Electronic billing presentment and payment systems | Supports electronic payment for online and physical store purchases of goods or services after the purchase has taken place | CheckFree Yahoo Bill Pay, MSN Bill Pay |

ELECTRONIC BUSINESS AND THE DIGITAL FIRM

- Businesses are finding that some of the greatest benefits of Internet technology come from applications that lower agency and coordination costs. Although companies have used internal networks for many years to manage and coordinate their business processes, intranets quickly are becoming the technology of choice for electronic business.
- An intranet typically centers around a portal to provide a single point of access to internal systems and documents using a Web interface. Such corporate portals provide a single, consolidated view of the information resources on the intranet and can be customized to suit the information needs of specific business groups and individual users if required. They may also feature e-mail, collaboration tools, and tools for searching internal corporate systems and documents.

How Intranets Support Electronic Business

- Most companies, particularly larger ones, must support a multiplicity of computer platforms that cannot communicate with each other, intranets provide instant connectivity, uniting all computers into a single, virtually seamless, network system.
- Web software presents a uniform interface, which can be used to integrate many different processes and systems throughout the company.
- Companies can connect their intranets to internal company transaction systems, enabling employees to take actions central to a company's operations.
- Internal corporate applications based on the Web page model can be made interactive using a variety of media, text, audio, and video.
- A principal use of intranets has been to create online repositories of information that can be updated as often as required. Product catalogs, employee handbooks, telephone directories, or benefits information can be revised immediately as changes occur.
- This event-driven publishing enables organizations to respond more rapidly to changing conditions than traditional paper-based publishing while eliminating

INTRANETS AND GROUP COLLABORATION

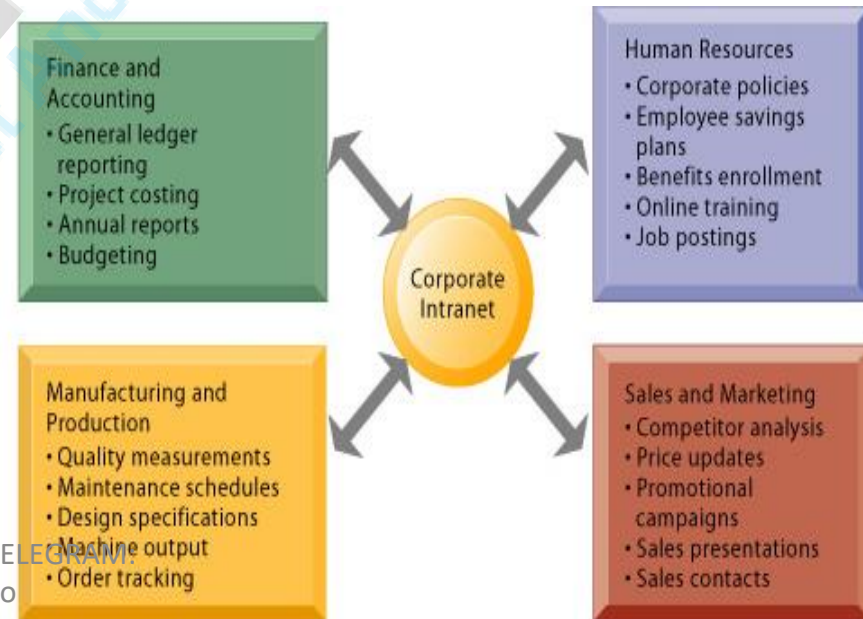
- Intranets provide a rich set of tools for creating collaborative environments in which members of an organization can exchange ideas, share information, and work together on common projects and assignments regardless of their physical location.
- Information from many different sources and media, including text, graphics, video, audio, and even digital slides can be displayed, shared, and accessed across an enterprise through a simple common interface.

Benefits of Intranets

- Connectivity: Accessible from most computing platforms
- Can be tied to internal corporate systems and core transaction databases
- Platforms for interactive applications
- Scalable to larger or smaller computing platforms
- Easy to use, universal standard Web interface
- Low start-up costs
- Richer, more responsive information environment than corporate manuals
- Reduced information distribution costs

Intranet Applications for E-Business

- Finance and accounting
- Human resources
- Sales and marketing
- Manufacturing and production



FINANCE AND ACCOUNTING

Many organizations have extensive transaction processing systems (TPS) that collect operational data on financial and accounting activities, but their traditional management reporting systems, such as general ledger systems and spreadsheets, often cannot bring this detailed information together for decision making and performance measurement.

Intranets are very valuable for finance and accounting because they can provide an integrated view of financial and accounting information online in an easy-to-use format.

HUMAN RESOURCES

Principal responsibilities of human resources departments include keeping employees informed of company issues and providing information about employees' personnel records and benefits.

The human resources function often uses intranets for online publishing of corporate policy manuals, job postings and internal job transfers, company telephone directories, and training classes.

Employees can use an intranet to enroll in health care, employee savings, and other benefits plans if the intranet is linked to the firm's human resources or benefits database, or employees can use it to take online competency tests. Human resources departments are able to deliver information about upcoming events or company developments to employees rapidly using newsgroups or e-mail broadcasts

SALES AND MARKETING

Internet technology is also useful for the internal management of the sales and marketing function. One of the most popular applications for corporate intranets involves overseeing and coordinating the activities of the sales force.

Sales staff consult the intranet for updates on pricing, promotions, rebates, or customers or to obtain information about competitors. They could access presentations and sales documents and customize them for customers.

MANUFACTURING AND PRODUCTION

In manufacturing, information management issues are highly complex, involving massive inventories, capturing and integrating real-time production data flows, changing relationships with suppliers, and volatile costs.

The manufacturing function typically uses multiple types of data, including graphics as well as text, which are scattered in many disparate systems. Manufacturing information is often very time sensitive and difficult to retrieve because files must be continuously updated. Developing intranets that integrate manufacturing data under a uniform user interface is more complicated than in other functional areas.

Despite these difficulties, companies are launching intranet applications for manufacturing. Intranets coordinating the flow of information between lathes, controllers, inventory systems, and other components of a production system make manufacturing information more accessible to different parts of the organization, increasing precision and lowering costs.

Supply Chain Management & Collaborative Commerce

- In the pre-Internet environment, business process integration was hampered by the difficulties of making information flow smoothly among many different kinds of systems servicing different functional areas and parts of the organization.
- Some of this integration can be supplied relatively inexpensively using Internet technology.
- Intranets can also be used to simplify and integrate business processes spanning more than one functional areas.
- These cross-functional processes can be coordinated electronically increasing organizational efficiency and responsiveness, can also be coordinated with the business processes of other firms.

- SPM integrates procurement, production and logistics processes to supply goods and services from their source to final delivery to the customer.
- Firms are using intranets to improve coordination among their internal business processes, and they are deploying extranets to coordinate processes shared with their customers, business partners, and other organizations.
- Using internet technology, all members of supply chain can instantly communicate with each other, using up-to-date info to adjust purchasing, logistics, manufacturing, packaging and schedules.

- A manager can use web interface to tap into suppliers' systems to see if inventory and production capabilities match demand for the manufacturer's products.
- Business partners can use web based supply chain management tools to collaborate online on forecasts.
- Sales representatives can tap into suppliers' production schedule and logistic info to monitor customers' order status.

- As extended supply chains start sharing production, scheduling, inventory forecasting and logistics info online, companies can **respond more accurately to changing customer demand.**
- Internet has introduced new ways of managing warehousing, shipping and packaging based on access to supply chain info that can give companies **an edge delivering goods and services at reasonable cost.**
- Companies can use info flows from the supply chain to postpone delivery decisions until they have the most up-to-date and complete info on what customer wants so that **the products can be delivered in the most direct and cost effective way.**

- Internet based supply chain management applications are clearly changing the way businesses work internally and with each other.
- In addition to reducing costs, these supply chain management systems provide more responsive customer service, allowing the workings of the business to be driven more by customer demand.
- Internet technology has given a great boost to collaborative product development that is more customer driven as well.

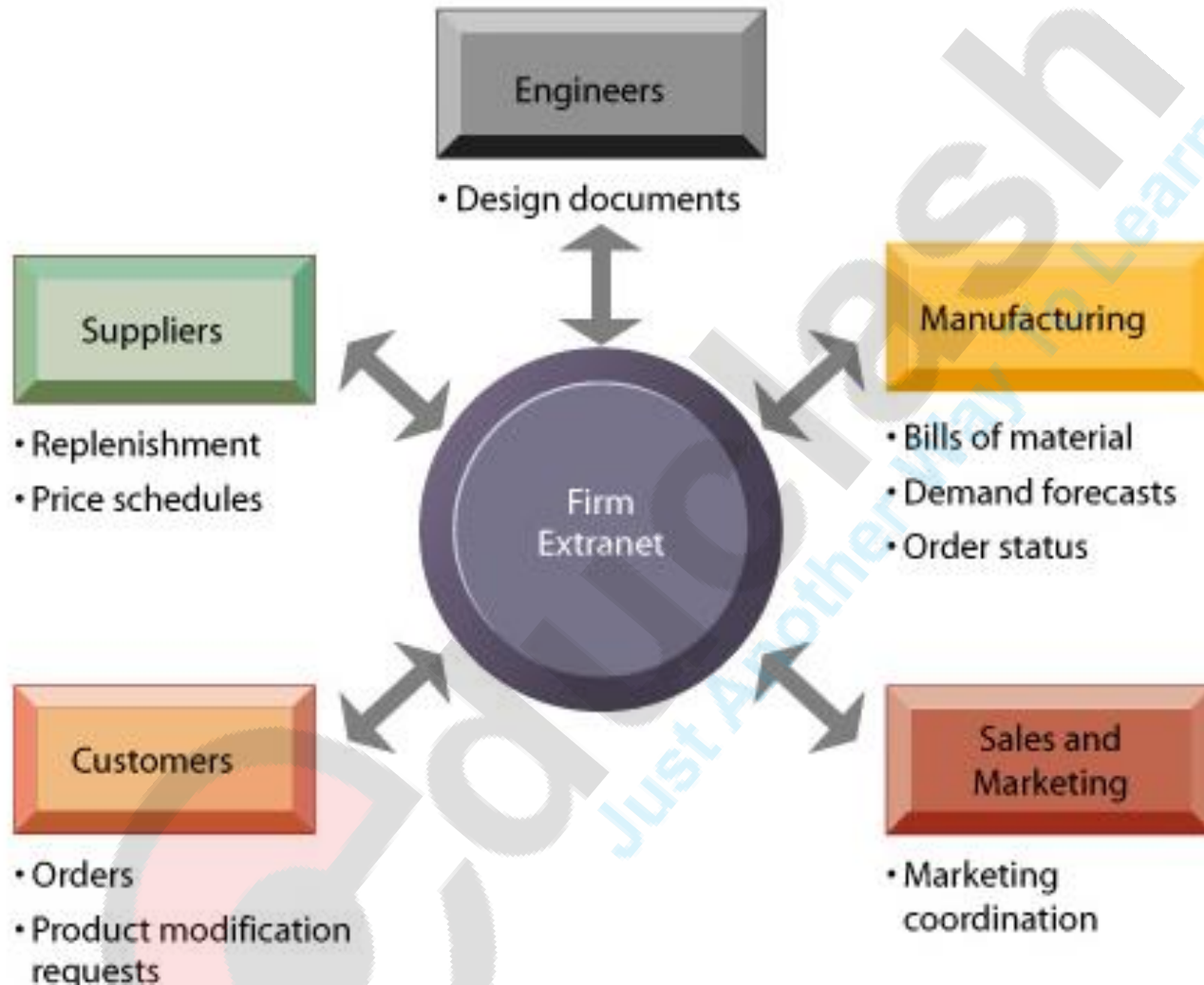


Fig Collaborative commerce

Collaborative commerce is a set of digitally enabled collaborative interactions between an enterprise and its business partners and customers. Internet technology helps the collaborative community share data and processes that were once considered internal.

MANAGEMENT CHALLENGES & OPPORTUNITIES

- Internet technology has provided businesses with powerful new tools to innovate and to execute much more efficiently, and it has also created a new series of management challenges.

Opportunities

The Internet and Internet technology have created extraordinary opportunities for new and traditional businesses to exploit digital technology.

- Firms are using these technologies to create new products and services, new channels for sales and marketing, and even entirely new businesses.
- These technologies have also strengthened traditional business models by helping firms reduce supply chain costs, increase production efficiency, and tighten relationships with customers.
- No company can afford to ignore the Internet and Internet technology, even if it does not do business online.

- **Management Challenges**

Digitally enabling business processes and relationships with other organizations can help companies achieve new levels of competitiveness and efficiency, it does pose challenges for managers. Many new Internet business models have yet to prove enduring sources of profit.

- Web-enabling business processes for electronic commerce and electronic business requires changing the way the organization works.
- The legal environment for electronic commerce has not yet solidified, and companies pursuing electronic commerce must be vigilant about establishing trust, security, and consumer privacy.

Unproven Business Models

- Not all companies make money on the web.
- Hundreds of retail dot-com firms, including kozmo.com, webvan, Garden.com have closed doors.
- The consulting firm Booz Allen & Hamilton Inc. estimated there were 1734 online marketplaces in 2000 and only 407 are expected to remain by 2004.
- Dot-com stock prices collapsed after many of these companies failed to generate enough revenues.

- Doing business over the internet is not necessarily more efficient or cost effective than traditional business methods.
- Virtual retailers may not need to pay for costly storefronts and retail workers, but they require heavy outlays for warehousing, customer service call centers and customer acquisition.
- Business that are unclear about their online strategy and their overall business strategy can waste thousands and even millions of dollars building and maintaining a website that fails to deliver desired results.

- Even successful websites can incur high costs viz payroll expenditures to pay for the skilled technical staff supporting the website and additional shipping expenses to make sure web orders are delivered to customers in a timely fashion.

Business Process Change Requirements

- Even if a company has a viable business model, it can fail if it is badly managed or its business model is poorly executed.
- E-commerce and E-Business require careful orchestration of the firm's divisions, production sites and sales offices as well as closer relationships with customers, suppliers and other business partners in its network of value creation.
- Essential business processes must be redesigned and more closely integrated especially those for SPM.
- In addition to integrating processes inside the firm, SPM requires aligning the business practices and behaviors of no. of different companies participating in the supply chain.
- Companies will need well defined policies and procedures for sharing data with other organizations, including specifications for the type , format, level of precision and security of data to be exchanged.

Legal Issues

- Laws governing e-commerce are still being written.
- Legislatures, courts and international agreements are just starting to settle such questions as the legality and force of e-mail contracts, the role of electronic signatures and the application of copyright laws to electronically copied documents.

TRUST, SECURITY, AND PRIVACY

- Electronic commerce cannot flourish unless there is an atmosphere of trust among buyers, sellers, and other partners involved in online transactions.
- Because online relationships are more impersonal perhaps than those in bricks-and-mortar commerce, some consumers remain hesitant to make purchases over the Web from unfamiliar vendors.
- Consumers also worry about the security and confidentiality of the credit card number and other personal data that they supply over the Internet.
- Internet-based systems are even more vulnerable to penetration by outsiders than private networks because the Internet was designed to be open to everyone.
- The Web provides an unprecedented ability to learn about and target customers. But the same capability can also undermine individual privacy.
- Using Web site monitoring software and other technology for tracking Web visitors, companies can gather detailed information about individuals without their knowledge.
- In other instances, Web site visitors knowingly supply personal information, such as their names, addresses, e-mail addresses, and special interests, in exchange for access to the site without realizing how the organization owning the Web site may use the information.
- For companies collecting detailed customer information over the Web, the challenge is balancing the desire to profit from such information with the need to safeguard individual

Digitally Enabling the Enterprise: Top questions to Ask

- Managers need to understand precisely how IT will benefit their company and the challenges they face when implementing e-commerce and electronic business applications. Some Qs to ask are:
 - How much digital integration does our business need to remain competitive?
 - How can we measure the success digitally enabling the enterprise?

- How will business process have to be changed to use internet technology seriously for e-commerce or e-business?
- How much process integration is required?
- How will we have to recast our relationships with customers, suppliers and other business partners to take advantage of digitally enabled business process?
- Do we have the appropriate IT infrastructure for digitally enabling our business?
- How can we make sure our intranet is secure from entry by outsiders?
- Are we doing enough to protect the privacy of customers we reach electronically?

Make IT Your Business

Finance & Accounting

- IT facilitates access to and integration of financial data from source inside and outside the firm.
- Companies can use the internet to obtain the data on interest rates, market conditions and other factors to help them monitor and plan their investments.
- Internet has opened up new avenues for businesses to make and receive payments electronically.

Human Resources

- IT has led to efficiencies and cost savings in employee communication and training as well the processing of basic human resource transactions.
- Many companies are installing self-service HR systems on intranets to deliver HR-related services such as enrolling in insurance and medical plans, maintaining employee savings plans and applying for company jobs.

Manufacturing And Production

- IT creates a common platform for communication and data exchange that can be used to integrate manufacturing and production data from disparate systems inside the firm and to coordinate manufacturing and production processes with those of suppliers and distributors.
- Public B2B commerce systems and private industrial networks can help reduce procurement costs and make other supply chain processes more efficient.

Sales & Marketing

- The internet has reduced consumer search costs and transaction costs making it easier to comparison shop and find the right combination of trust, fulfillment, customer service and price to meet consumer's needs.
- The internet has broadened the scope of marketing communications by making it easier for firms to reach large no. of people.
- The internet has also increased the richness of marketing communications by combining text, video and audio content into rich messages.