

E-Commerce

It's concerned with systems and business processes that support -

- Creation of Information Sources
- Effective and efficient interaction among producers, consumers, intermediaries and sellers
- Movement of information on global networks

Types of e-commerce

- Tangible goods



- Digital goods

software, music / audio, text
(news, research), pictures, video



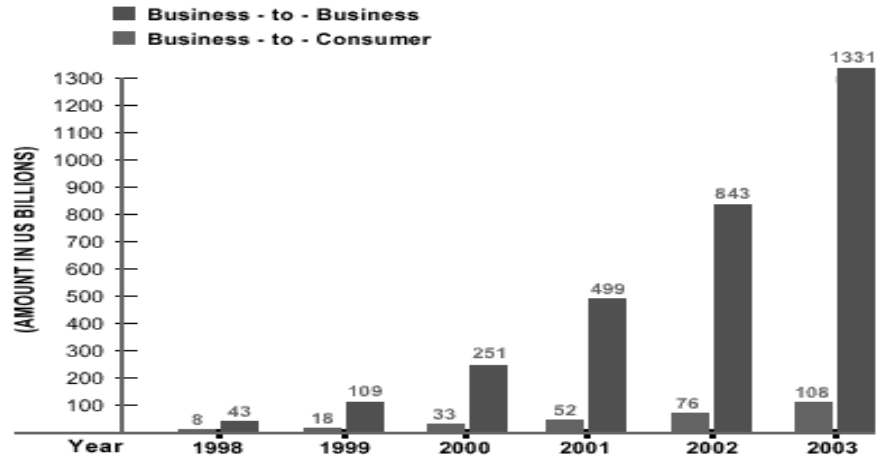
- Services

stock trades, airline tickets, insurance



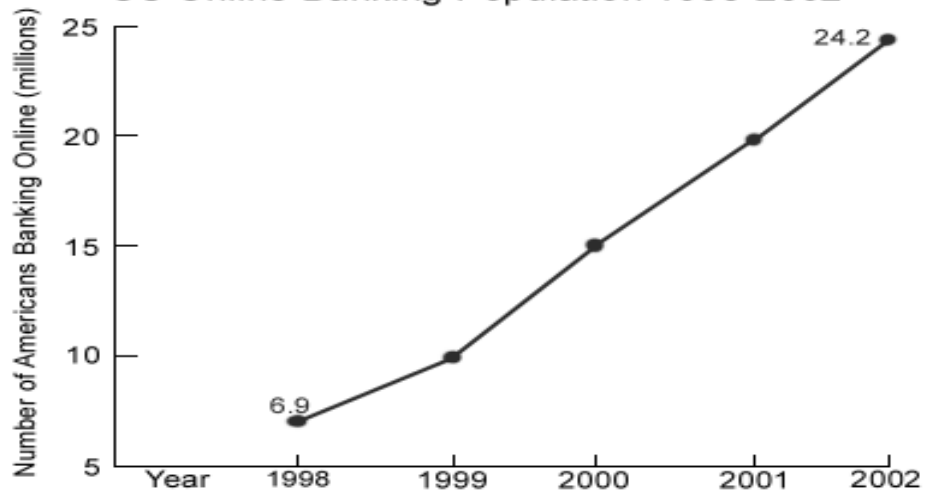
E-Commerce Growth

US ECOMMERCE 1998 - 2003



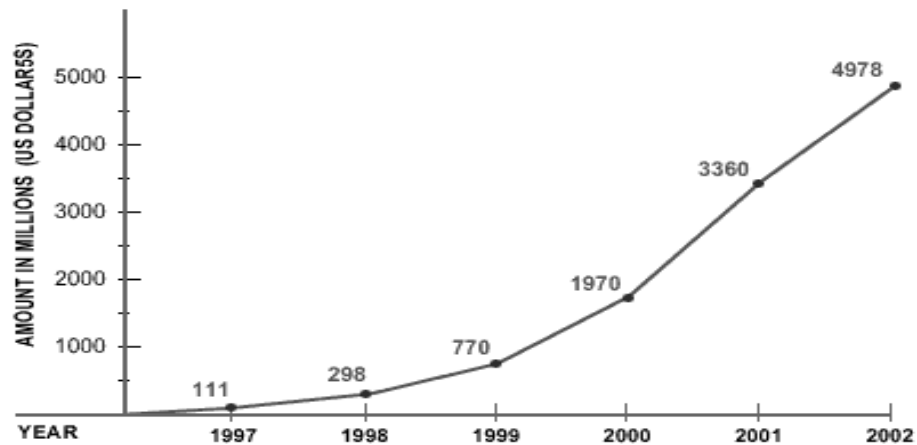
E-Commerce Growth

US Online Banking Population 1998-2002



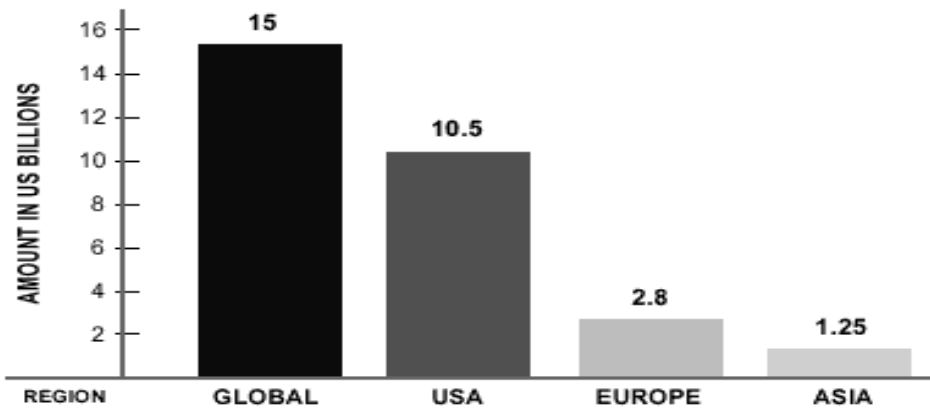
E-Commerce Growth

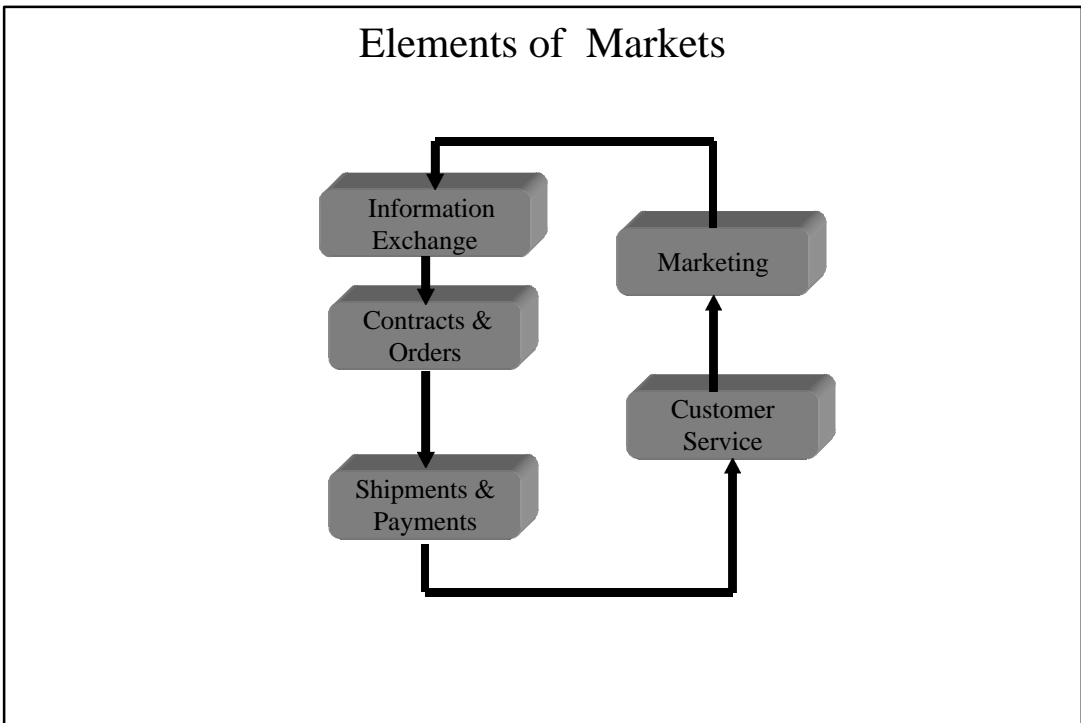
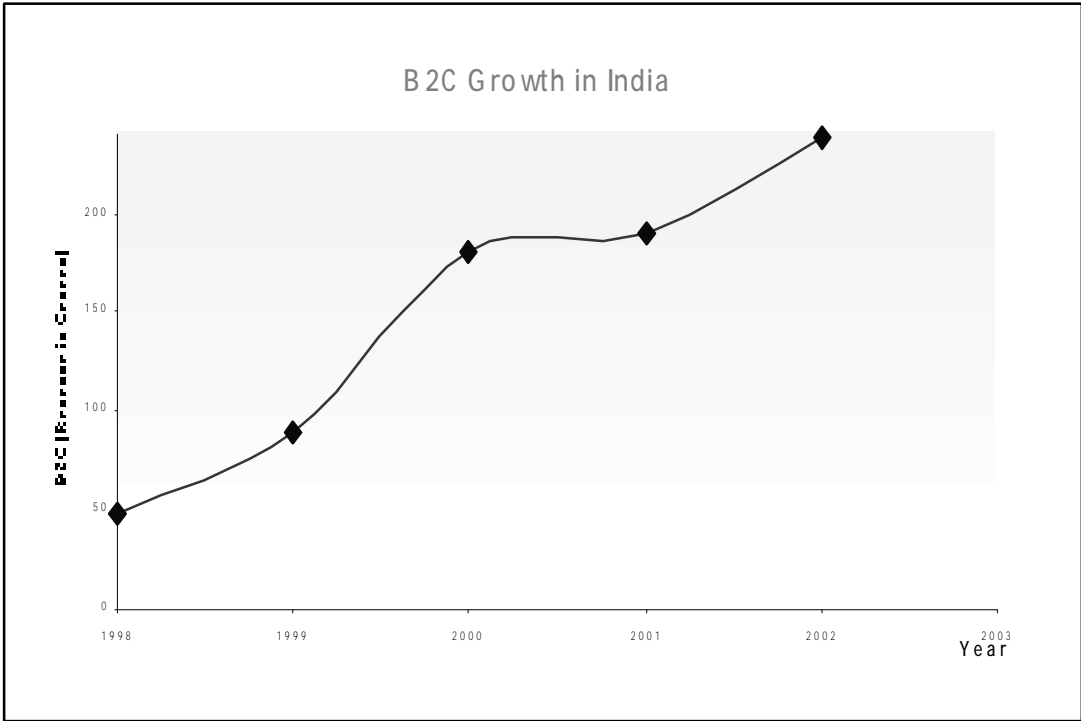
Consumer Spending at European Sites 1997 - 2002



E-Commerce Growth

Online Advertising Revenue in 2003 by Region





Traditional Vs. Electronic Commerce

- **Information Exchange**
 - Electronic Catalogs
 - Online Product/Service details
 - Pricing and Customization
 - Quality Comparisons and features information
 - Shipping Modes and Payment terms
- **Contract and Order**
 - Customized Product Specs, Quantity, Price, discounts
 - Final Payment, Delivery and Service Options
- **Shipping and Payment**
 - Exchange of Values
 - Digital Product or Service delivery over the net
 - Tangible products delivery tie up with third party
 - Payment Options- Credit Card, Digital Money, Cash-on-delivery

Contd..

- **Customer Service**
 - Direct reach to customer feedback
 - Updates to Customers on newer features and versions
 - Quick tracking and redressing of problems
- **Marketing**
 - Internet based Advertising Mechanisms- Banner, Micro-sites, Email campaigns etc.
 - Data Generated using customer feedback, support, clicks on features, feature selections, and transactions can be used for improved product offerings

Electronic Commerce: Benefits

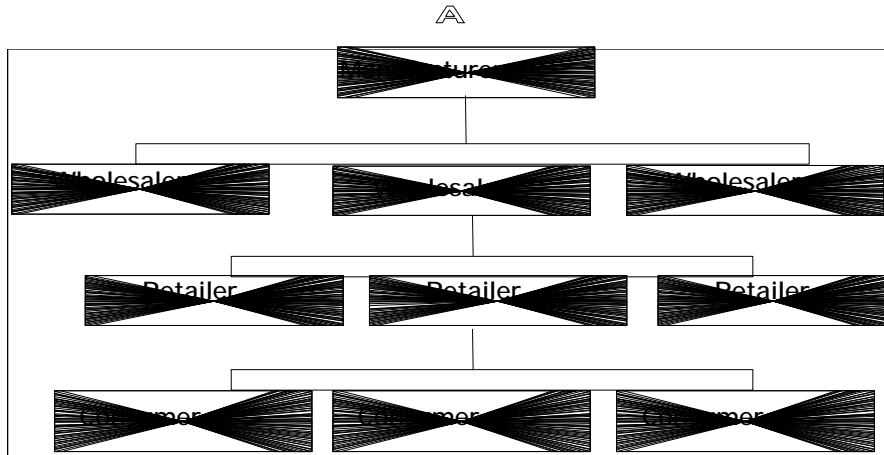
- Global Distribution of Information
- Expands the Market Reach- beyond Geographic boundaries
 - Small Business can also access global marketplace
 - Amazon.com, Ebay.com, BaZee.com
- Saves on Cost of Printing Information brochure and Catalogs
 - JC Penny and Sears
- Everyone accesses the latest version of product, catalog, information
 - HP, Cannon etc can provide download for driver software saving
- Efficient and quick delivery of information needs of users
 - Federal Express- Customer can track status of a shipment
 - IndianRailways.com – Customer check seat availability, trains routes, make reservations online

Traditional Model



Electronic Commerce: Impact

Traditional Distribution Chain

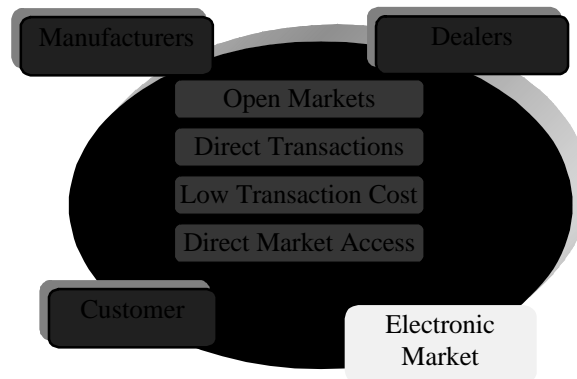


Electronic Commerce: Impact

- The selling price of a product consists of three elements:
 - Production costs,
 - Coordination costs
 - Profit margin
- Production costs have largely been minimized
- Electronic markets are a more efficient form of coordination for certain classes of product transactions

Electronic Market Perspectives

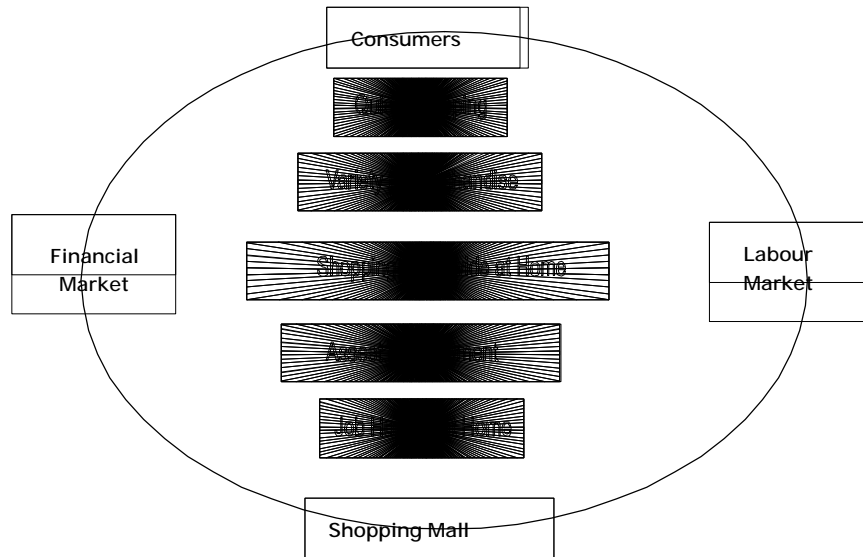
Industry's Perspective



Electronic Commerce: Impact

- Electronic markets are likely to promote price competition and reduce the market power of sellers. Buyers are likely to benefit from these systems in following ways:
 - The consumers may enjoy lower prices because of increased competition among the sellers.
 - The consumers will be better informed about the available products, and thus may choose sellers that suit their needs better. This will generate substantial allocation efficiencies.
 - Transaction costs and searching costs incurred in obtaining the best possible product features and prices are largely minimized.

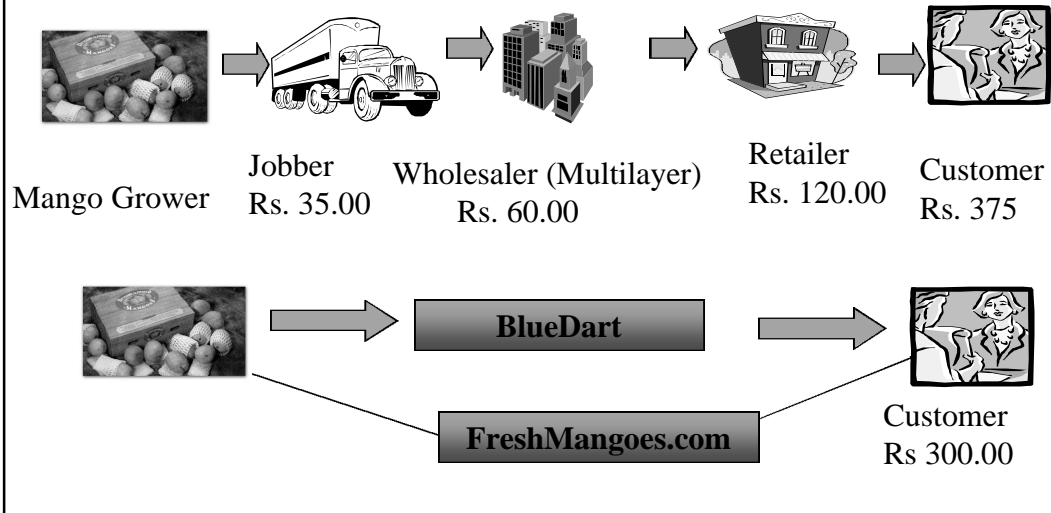
EC Impact: Consumers' Perspective



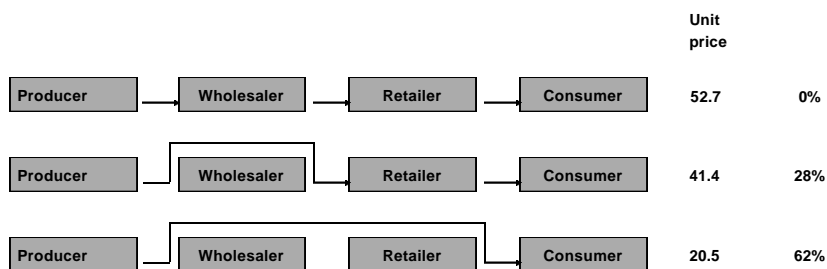
Impact of Electronic Commerce

- Financial values—
 - Restructuring of Distribution and Supply Chain
- Strategic values—
 - competitive advantage - business procedures
 - Customer Relationship Management

The Supply chain (Distribution)



What will change in the value chain?

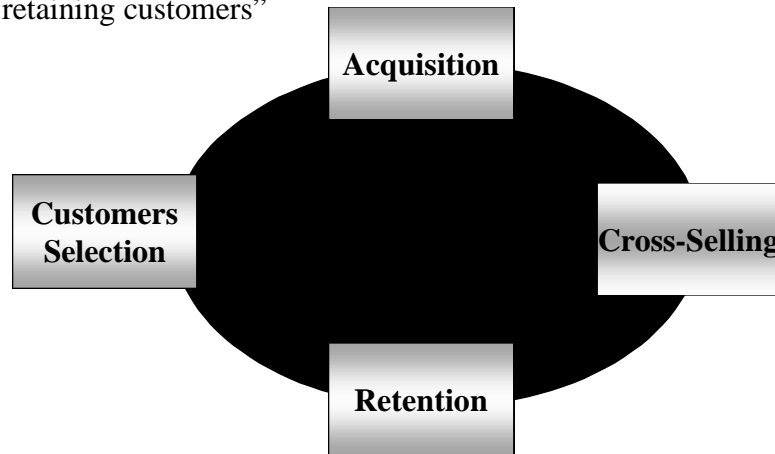


Increase in added value / unit price in the value chain			
	Producer	Wholesaler	Retailer
Added value	20.5	11.3	20.9
Sales price	20.5	31.8	52.7

(Benjamin & Wigand, 1997)

Customer Relationship Management

- “Process of creating and maintaining relationships with business customers or consumers”
- “A holistic process of identifying, attracting, differentiating, and retaining customers”



Customer Relationship Management

Bottom-line:

The use of information-enabled systems for enhancing individual customer relationships to ensure long-term customer loyalty and retention

Traditionally CRM means –

- Sales Force Automation (SFA)
- Customer Service and Support (CSS)
- Help Desk
- Field Service
- Marketing Automation

Marketing – 75 years ago

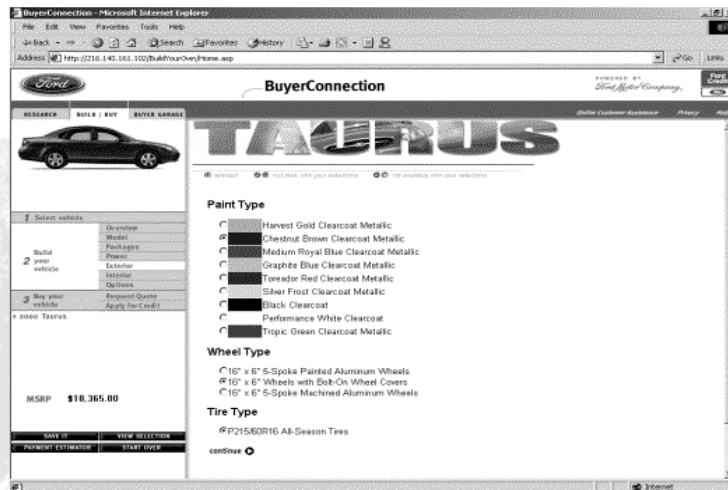
- Production – a la Adam Smith
- You can have any color as long as it's black – Ford Motor Co.



CRM-Forum 4

Marketing - today

Add the spice of flexibility, courtesy of robotics, computers ...

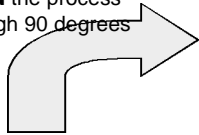


CRM-Forum

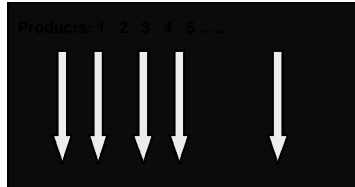
New approach to Customer Relationship

TO: Finding products that are right for each customer

TURN the process
through 90 degrees



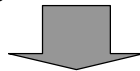
FROM: Finding customers that are right for each product



“Mass Customization” — *B. Joseph Pine*

- Mass production
 - Cheap to produce
 - Efficient to produce
 - Uniform features/quality
 - ‘one size fits all’ approach
 - Optimize production cost

- Customization
 - Expensive to produce
 - Inefficient to produce
 - Customized features
 - ‘tailor made’ approach
 - customer satisfaction



- ☑ Mass customization
 - ☐ Cheap & efficient to produce
 - ☐ Customized features
 - ☐ ‘tailor made’ approach
 - ☐ Optimize production cost & customer satisfaction

Need Creation (attract to website)

Need Creation

anticipate/stimulate

From: Amazon.com [music-store-news@amazon.com]
 To: dick@dickstr.demon.co.uk
 Cc:
 Subject: Anne-Sophie Mutter's "The Four Seasons"

Dear Amazon.com Customer,

We've noticed that many of our customers who've purchased CDs by Yo-Yo Ma also enjoy music by violinist Anne-Sophie Mutter. For this reason, you may like to know that Mutter's new recording of Vivaldi's "The Four Seasons" has just hit the shelves. For the next few days, you can order your copy at a savings of 30% by following the link below:

<http://www.amazon.com/exec/obidos/ASIN/B00002DE2L>

Personalized experience in B2C e-commerce – Amazon.com

amazon.com. VIEW CART | WISH LIST | YOUR ACCOUNT | HELP

WELCOME Bhasker's Store BOOKS ELECTRONICS DVD TOYS & GAMES MUSIC HEALTH & BEAUTY TOOLS & HARDWARE SEE MORE STORES

INTERNATIONAL TOP SELLERS TARGET TODAY'S DEALS SELL YOUR STUFF

Bharat Bhasker, like to read magazines? Like to receive \$10--or \$20? Visit Today's Deals.

NEW FOR YOU

(If you're not Bharat Bhasker, [click here.](#))

Your Message Center
 You have 6 new messages.

Your Shopping Cart
 You have 0 items in your Shopping Cart.

More Categories

- Science Fiction & Fantasy
- History
- Computers & Internet

Use of Web mining

- cookies to identify user
- analysis of user's past behavior and 'peer group analysis' for
 - personalized messages
 - category recommendations
 - gold box offers
- Use of clustering, association analysis, temporal sequence analysis, etc.

Electronic Commerce: Classification

	Business	Consumer
Business	B2B Cisco, GEIS IndiaMart	B2C Mustafa, FabMart IndiaTimes.com
Consumer	C2B PriceLine.com	C2C BaaZee.com

Electronic Commerce: Classification

- Business-to-consumer (B2C)
- Business-to-business (B2B)
- Consumer-to-consumer (C2C)
- Consumer-to-Business (C2B)
- Sometimes, We add two additional classifications:
 - Business to Employee (B2E)
 - B2E services are typically offered by Intranet Applications to provide all the needed information to the employees of an organization.
 - Business to Government (B2G)
 - B2G is similar to B2B except Governments operate under own set of rules that may have to adhered by other businesses.

Electronic Commerce: B2B

- It requires two or more business entities interacting with each other directly or through an intermediary.
- The intermediaries in B2B may be the market makers and directory service providers that assist in matching the buyers and sellers and striking a deal.
- The business application of B2B electronic commerce can be utilized to facilitate almost all facets of the interactions among organizations, such as Inventory Management, Channel Management, Distribution Management, Order fulfillment and delivery, and payment management.
- The B2B electronic commerce can be
 - Supplier-Centric,
 - Buyer-centric, or
 - Intermediary-centric.

B2B: Supplier-Centric

- A supplier sets up the electronic commerce market place for various buyer businesses to interact with the supplier at its electronic market place.
- Typically, a dominant supplier in the domain of products sets up such a market place.
- The supplier may provide customized solutions and pricing to fit the needs of buyers' businesses. Usually, differential price structure is dependent upon the volume and loyalty discount.
- Example, Cisco Connection Online (CCO)

B2B: Buyer-Centric

- The major business with high volume purchase capacity creates an electronic marketplace for purchase and acquisition.
- The electronic marketplace is used for placing requests for quotations (RFQs) and carry out the entire purchase process on-line by the buyer.
- This kind of facility may be utilized by high volume and well-recognized buyers, as they may have adequate capacity and business volumes to lure suppliers to bid at the site.
- Example, General Electric's Trading Process Network

B2B: Intermediary-Centric

- A third party may set up the electronic marketplace and attract both the buyer and seller businesses to interact
- The Buyers and Sellers, both benefit from the increased options in terms of pricing, quality, availability and delivery of goods.
- The third party electronic marketplace acts as a hub for both the suppliers and buyers, where buyers place their request for the quotations and sellers respond by bidding electronically leading to a match and ultimately to a final transaction.
- It is essential that Intermediary Company represent large number of the members in that specific markets segment, i.e., both the buyers and the sellers.
- The Intermediary reduces the need of buyers and sellers to contact a large number of potential partners on their own.
- Example, IndiaMart.com

Electronic Commerce: B2C

- The two or more entities that interact in this type of transactions involve a business and a consumer.
- The businesses offer a set of merchandise at given prices, discounts and shipping and delivery options.
- The sellers and consumers both benefit:
 - Through the round the clock shopping
 - Accessibility from any part of the world,
 - Increased opportunity for direct marketing,
 - Customizations and
 - Online customer service.

Electronic Commerce: B2C

- **The B2C model of electronic commerce transaction is ideally suited for the following:**
 - Goods that can be easily transformed into the digital format such as books, music clips and videos, software packages
 - Items that follow a standard specifications: printer ribbons, ink cartridges etc
 - Highly rated brand items or items with return security: Dell & Compaq Computers, Electronic Gadgets from Sony etc.
 - Items that may be sold in packets that can not be opened even in physical stores, Kodak film rolls
 - Relatively cheap items: where the savings outweigh the risks
 - Items that can be experienced online such as Music, Videos etc

Electronic Commerce: C2B

- The transaction originated by the customer have the set of specifications and the required price for a commodity, service or an item.
- The business entity is expected to match the requirements of the consumers to the best possible extent.
- The Consumer to Business (C2B) enables a consumer to determine the price of a product and/or service offered by a company.
- It reduces the bargaining time and increases the flexibility at sales place for both the merchant and the consumer.
- For Example, PriceLine.com

Electronic Commerce: C2C

- It promotes opportunity for consumers to transact goods or services to other consumers present on Internet.
- The C2C in many a situations models the exchange systems with a modified form of deal making.
- For the deal making purposes large virtual consumer trading community is developed. The customer operates by the rules of this community to compete, check and decide his own basic transaction prices.
- It mimics the traditional economic activities corresponding to 'classified ads' and auctions of personal possessions.
- Much of the transactions in this category correspond to the small gift items, craft merchandise and similar items that are normally sold through the 'flea' markets or Bazaars.
- For Example, Ebay.com, BaaZee.com

Electronic Commerce: Intra Organization

- Intranets are corporate networks that utilize the Internet technology but limit access to the internal members of an organization.
- Typically, they are built by securing it from the global Internet through a firewall that limits access to internal/authorized members only.
- Internal computer network that supports Internet applications qualifies to be called an Intranet.
- Typically, Intranets use TCP/IP connectivity and a HTTP server (Web server).
- Through Standard web browser users can tap into corporate legacy data, share applications and publications.

Electronic Commerce: Intra Organization

Intranet Offers following advantages

- **Platform Independent and Portable Access**
 - Increase the reach of internal users through a portable, platform.
 - Regardless of the type of platform the up-to-date information can accessed from a common interface often based on Web browser.
- **Business to Employee (B2E) services**
 - Used for implementing improved Employee Relationship Management initiatives. B2E applications offer employees self-service capability on much of the human resource functions.
- **Intra Organization Integration**
 - the web can integrate the legacy systems spread across the organization. This expands the information available for decision-makers

EC Applications: Electronic Auctions

- The Auctions are a market mechanism for trading the items at a market-negotiated price based upon the demand and supply.
- The Internet has added a new dimension by creating an online mechanism for implementing the Auction process.
- The auction mechanisms implemented using the electronic commerce technologies allows people connected through the Internet to bid online.
- The Electronic auctions potentially encourage greater participation as any Internet users with access to site hosting an auction can bid.
- For Example, AuctionIndia.Com, Ebay.com

EC Applications: Electronic Banking

- The electronic banking empowers the consumers to access their accounts, carry out transactions through the Web browsers or Web enabled personal software packages.
- The customers can view account details, transfer funds, pay bills, order checks and review account history.
- Examples, ICICI Bank, HDFC Bank

EC Applications: Electronic Searching

- Internet and electronic commerce technologies have put the information few key strokes away from people connected to Internet.
- Web browser can be used for accessing the functionality offered by telephone directories by interfacing the directory database with the Web (HTTP) server.
- The complete functionality offered by telephone directory service provider can be offered through a single web interface without any human intervention all the time from all the locations.
- Example, Whowhere.com, yp.intel.com

EC Applications: Electronic Searching

- World Wide Web is a vast sea of information. Contains personal pages, business pages, and general information on many topics and subjects.
- Locating relevant information in an ocean of over 1.3 billion pages can be a Herculean task.
- Many companies have built information retrieval systems that assist in searchin the information based on keywords and text.
- Eaxample, Yahoo (<http://www.yahoo.com>), Altavista (<http://www.altavista.com>), Google (<http://www.google.com>), Khoj (<http://www.khoj.com>), and India123 (<http://www.india123.com>)

EC Applications: Education & Learning

- IDC defines e-Learning as the concept of delivering training over the Internet to the desktop. Internet empowers professionals with flexible training, customized learning, work schedules.
- CD-ROM offered Computer Based Training (CBT) which is transportable, cost efficient, "anytime anywhere" training.
- Internet and WWW provided the capabilities of basic mentoring through email, delivery of content in text with simple graphics, and low-quality Web-casts.
- Due to growth Internet technologies and bandwidth, today training is characterized by Java/IP network applications, rich streaming media, high-bandwidth access, and live, virtual classrooms over the Web with real-time monitoring.
- It is capable of providing content in multiple formats as an integrated suite that is focused on the learner as opposed to force-fitting old CD-ROM technology into a Web format.

EC Applications: Education & Learning

- Technology has evolved to the extent that the course developers can pay more emphasis on providing students a better experience than they might have had even with a traditional instructor-led class in a brick-and-mortar environment.
- The focus in such an e-learning environment is on engaging them and keeping the learners engrossed in the information being conveyed. The key behind good e-Learning and bad e-Learning solution lies in the degree to which learners are engaged.
- A good e-Learning solution is a full sensory type of approach to technology and education consisting of animations, the multiple voices, the humor, the games, the interaction, the hands-on labs, the simulations, the demos.
- The on line instructor can interact and explain concepts and clear doubts to anyone attending a course, no matter where the students are located as long as they are sitting in connected classrooms.

EC Applications: Marketing

The traditional marketing faces following major challenges:

- *Higher Costs:*
 - Costs to produce brochures and product data sheets, shipping and mailing. The support for consumer queries requires more human resources.
- *Hit Ratio:*
 - The direct mail even in the targeted market place suffers from extremely low response rates.
- *Time Intensive:*
 - A preparation of an advertisement or a marketing brochure may require several rounds of revisions leading to delays in dealing with ad agencies and printers. Also, the prepared advertisement may sometimes have to wait for a long period due to suitable slot availability in the media.

EC Applications: Marketing

The Internet advertising offers following advantages:

- *Cost Savings:*
 - The catalogues, brochures, product specifications prepared in the electronic form and delivered through the Internet offer huge savings in copy editing, printing, packaging and shipping costs and updating them as and when required. Also, it cuts the time to put the information on customers hand the up to date information is available to customers worldwide continuously through the reach of Internet.
- *Lower Barrier to Entry:*
 - The size of business, location of business and the brick and mortar infrastructure does not matter when you are present on Internet. Electronic commerce universe is a great leveler. It offers equal opportunity to one and all by lowering the barriers to access the marketplace.

EC Applications: Supply Chain Management

The supply chain management deals with three issues:

- Coordinating all the order processing activities that originate at the customer such as process of order generation, order acceptance, entry into order processing system, prioritization, production and material forecast;
- Material related activities such as scheduling, production, distribution, fulfillment and delivery;
- Financial activities such as invoicing, billing, fund transfer and accounting.

EC Applications: Supply Chain Management

The electronic commerce technologies assist in:

- Linking and managing digitized products, product information, processes and intercommunication among organizations.
- The primary goal of streamlining the product delivery from manufacturer to the customer can be better served with digital communication, sharing of information/ databases and coordination across number of organization in the 'chain'.
- Through the use JAVA and XML, members of a supply chain can pool together heterogeneous resources and skills for sharing and exchange of information to deliver the outcome as one "virtual" organization.

EC Applications: Supply Chain Management

The emergence of Virtual organizations is driven by

- The globalization of the economy leading to the access to resources from across the world.
- The restructuring of industry due to new economic realities and WTO.
- Emergence of the electronic commerce driven by Internet technology for new mode of interaction between manufacturers, suppliers, distributors and customers.

EC Applications: Electronic Trading

- The electronic trading is a mechanism that utilizes the power of electronics and communication media such as Internet to bring together geographically dispersed buyers and sellers on a virtual common trading platform.
- The virtual platform offers aggregated information to all the participants in a fair manner. The platform facilitates the access to aggregate information, order booking and fulfillment.
- In the context of stock markets, the e-trading means buying and selling equity online through electronic means.
- Examples: ICICIdirect, E-trade, Fidelity, Charles Schwab