

# E-Commerce and Web Programming

## History of E-commerce

Most of us have shopped online for something at some point, which means we've taken part in e-commerce. So, it goes without saying that e-commerce is everywhere. But very few people may know that e-commerce has a history that predates the internet.

When did ecommerce begin?

- ❑ In 1982, the Boston Computer Exchange (BCE) marked the launch of the world's first eCommerce company. As an online marketplace, BCE enabled people to buy and sell used computers.
- ❑ The industry has evolved rapidly since then, with companies like [Alibaba](#) and [Amazon](#) becoming household names around the world. The introduction of free shipping, which, at least on the surface, reduces costs for consumers, has also helped increase the popularity of the e-commerce industry.

## What Is Electronic Commerce (E-commerce)?

Electronic commerce, or e-commerce, is the buying and selling of goods and services over the internet. E-commerce can be conducted on computers, tablets, smartphones, and other smart devices. Nearly every imaginable product and service is now available through e-commerce, and it has upended how many companies and entire industries do business.

According to the editor-in-chief of International Journal of Electronic Commerce, Vladimir Zwass, “*Electronic commerce is sharing business information, maintaining business relationships and conducting business transactions by means of telecommunications networks*”.



## **Features of E-commerce:**

Electronic commerce, or e-Commerce, refers to the purchasing and selling of goods or services via electronic means, such as the Internet or mobile phone applications. It may also refer to the process of creating, marketing, servicing and paying for services and goods. Businesses, governments and the public can participate in e-Commerce transactions. The following

discussion will elicit the unique features of e-commerce. The unique features of e-commerce technology include:

### **1.Ubiquity:**

e-Commerce is ubiquitous, it is available just about everywhere and at all times by using internet and Wi-Fi hotspot such as airport, coffee cafe and hill station places. Consumer can connect it to the Internet at any time, including at their homes, their offices, on their video game systems with an Internet connection and mobile phone devices. E-Commerce is ubiquitous technology which is available everywhere Moreover, individuals who have cell phones with data capabilities can access the Internet without a Wi-Fi connection.

### **2. Global reach:**

The potential market size is roughly equal to the size of the online population of the world. E-Commerce Technology seamlessly stretches across traditional cultural and national boundaries and enables worldwide access to the client. E-Commerce website has ability to translate the multilingual websites as well as allow the access to visitors all over the world, purchase products and make business interactions.

### **3. Universal standards:**

The technical standards of the Internet are shared by all of the nations in the world. The whole online tradition is growing and expanding their features in the world. To development any kind of business need Internet and communication application which make the business relationship more lovingly and attractive for secure business and successful business.

### **4. Richness:**

Users can access and utilize text messages and visual and audio components to send and receive information. An individual may see information richness on a company's blog if a post contains a video related to a product and hyperlinks that allow him to look at or purchase the product and send information about the post via text message or email.

## **5. Interactivity:**

E-commerce technologies allow two-way communication between the merchant and the consumer. As a result, e-Commerce technologies can adjust to each individual's experience. For example, while shopping online, an individual is able to view different angles of some items, add products into a virtual shopping cart, checkout by inputting his payment information and then submit the order.

## **6. Personalization:**

Technologies within e-Commerce allow for the personalization and customization of marketing messages that groups or individuals receive. An example of personalization includes product recommendations based on a user's search history on a Web site that allows individuals to create an account.

## **7. Information density:**

The use of e-Commerce reduces the cost to store, process and communicate information, at the same time, accuracy and timeliness increase; thus, making information accurate, inexpensive and plentiful. For example, the online shopping process allows a company to receive personal, shipping, billing and payment information from a customer all at once and sends the customer's information to the appropriate departments in a matter of seconds.

## **8. Social technology:**

E-Commerce technology has tie up the social media networking application to provide the best source of content sharing technology and e-Marketing systems. You can share your content or data easily in just one click.

## **9. User-Generated Content:**

Social networks use e-Commerce technologies to allow members, the general public, to share content with the worldwide community. Consumers with accounts can share personal and commercial information to promote a product or service. When a company has a professional social networking account, a member of the same social network has the option of associating himself with the company or a product by saying he likes or recommends it. When an individual updates his status on a social networking account, he may also mention a product or company by name, which creates word-of-mouth advertising.

## **Differences between Traditional Commerce and E-Commerce (HW)**

## **Functions of E-Commerce**

The following are five functions you should be doing daily in your e-commerce business.

### **a) Search Engine Optimization (SEO)**

- ☐ Generate unique and relevant content. Google loves unique content that is related to what your site is all about. Ensure you are using good keywords you want to focus on. Every page should have an H<sub>1</sub> tag around what is the focus of the page, such as a product name, category name, or static content title. Use H<sub>2</sub> tags as well for other important page sections.
- ☐ Keywords in optimized page titles.
- ☐ Internal linking: Link keywords in your unique content to pages related to that keyword.
- ☐ Friendly URLs with related phrases. For example, if talking about Pathao Courier, the URL looks like this: <http://www.pathao.com/services/courier/>

### **b) Selecting New Products**

- ☐ Sell what the customer wants to buy, not what you want to sell! This is a common mistake, especially when merchandisers are given a great price to sell a particular product. If nobody wants to buy that product, it doesn't matter what price you set it at.
- ☐ Find out what customers want.

### **c) Merchandising New Productions**

- ☐ Pictures, pictures, pictures! It is very important to have high-quality images of the products.
- ☐ Hero photos: A hero photo is the large, prominent banner image that appears at the top of a webpage. For example: 11.11 banner in Daraz.com.
- ☐ Newsletter: A newsletter is a regularly sent email that contains updates, promotions, news, or helpful content from a business to its subscribers. For example: "Flash Sale! 40% Off Today Only!"

### **d) Customer Service**

- ☐ Keep your customers happy.
- ☐ Deliver orders on time.
- ☐ Ensure order accuracy.

**e) Monitoring KPI (Key Performance Indicator)**

- ☐ Check your website analytics regularly – see which products are selling the most.
- ☐ Push best-selling items to the top – make them easier for customers to find.

**Scope of E-Commerce in Bangladesh:**

- ☐ **Rising Internet Users** – With mobile internet penetration growing fast, more people are shopping online, even from rural areas.
- ☐ **Cash on Delivery (COD)** – Still the most popular payment method, especially due to low card usage and trust issues.
- ☐ **Customer Experience** – Fast, reliable deliveries and good customer service are key to building trust and loyalty.
- ☐ **Growing Market Base** – Millions of users are exploring e-commerce platforms like Daraz, Chaldal, AjkerDeal, and Rokomari, etc.
- ☐ **Popular Segments** – E-tailing (electronics, fashion), travel bookings, and food delivery are growing. Example: BusBD, Shohoz, FoodPanda, etc.
- ☐ **Job Opportunity** – E-commerce created a vast job opportunity. It also can offer job like bdjobs.com.
- ☐ **Business Opportunity** – Low entry barriers and digital support (e.g., bKash, Nagad) make it easy for small sellers to join.

**Benefits and limitations of E-Commerce (HW)**

**2.4.10 Tender portals:** A tender portal is a gateway for government suppliers to bid on providing goods and services. Tender portals allow users to search, modify, submit, review and archive data in order to provide a complete online tendering process.

Using online tendering, bidders can do any of the following:

- Receive notification of the tenders.
- Receive tender documents online.
- Fill out the forms online.
- Submit proposals and documents.
- Submit bids online.

**2.4.11 Domain-specific portals:** A number of portals have come about which are specific to the particular domain, offering access to related companies and services; a prime example of this trend would be the growth in property portals that give access to services such as estate agents, removal firm, and solicitors that offer conveyancing. Along the same lines, industry-specific news and information portals have appeared, such as the clinical trials-specific portal.

## **2.5 Meaning and Features of Business model**

### **2.5.1 Meaning of Business Model**

Business model is the most discussed and least understood aspect of the web. There is so much talk about how the web changes traditional business models. But there is little clear-cut evidence of exactly what this means.

Basically, a business model is the method of doing business by which a company can sustain itself -- that is, generate revenue. The business model spells-out how a company makes money by specifying where it is positioned in the value chain.

Some models are quite simple. A company produces a good or service and sells it to customers. If all goes well, the revenues from sales exceed the cost of operation and the company realizes a profit.

Internet commerce will give rise to new kinds of business models. But the web is also likely to reinvent tried-and-true models. Business models have been defined and categorized in many different ways. When organizations go online, they have to decide which e-business models best suit their goals.

A business model is defined as the organization of product, service and information flows, and the source of revenues and benefits for suppliers and customers. The concept of e-business model is the same but used in the online presence.

The e-Business model describes how a company functions; how it provides a product or service, how it generates revenue, and how it will create and adapt to new markets and technologies. It has four traditional components. These are the e-business concept, value proposition, sources of revenue, and the required activities, resources, and capabilities. In a successful business, all of its business model components work together in a cooperative and supportive fashion.

### **2.5.2 Features of Business model**

#### **i. E-Business Concept**

The *e-business concept* describes the rationale of the business, its goals and vision, and products or offerings from which it will earn revenue. A successful concept is based on a market analysis that identifies customers likely to purchase the product and how much they are willing to pay for it.

#### **ii. Value Proposition**

The *value proposition* describes the value that the company will provide to its customers and, sometimes, to others as well. With a value proposition the company attempts to offer better value than competitors so that the buyer will benefit most with this product.

A value proposition may include one or more of the following points:

- Reduced price
- Improved service or convenience such as the "1 click" checkout
- Speed of delivery and assistance
- Products that lead to increased efficiency and productivity
- Access to a large and available inventory that presents options for the buyer
- Providing value in an e-business uses the same approach as providing value in any business, although it may require different capabilities. But common to both are the customers who seek out value in a business transaction. The value proposition helps focus the business on the well-being of the customer, where it remains in successful companies.
- Value Delivery through Integration Of Activities

### iii. Sources of Revenue

Depending on the business model, several revenue sources may be available to an e-business. Many online businesses will have a three or four of these sources. A mix of revenue sources is often referred to as a *revenue model* but may be mistakenly called a business model.

Some of these sources of revenue are:

- ❖ Advertising
- ❖ Affiliation
- ❖ Agent commissions
- ❖ Licensing
- ❖ Sales commissions
- ❖ Sales profits
- ❖ Sponsorship
- ❖ Subscription
- ❖ Syndication
- ❖ Use Fees

For large public-private or government projects revenue sources might also include:

- ✓ Bonds, usually for large capital expenditures
- ✓ Taxes, primarily income, property and sales taxes
- ✓ Use fees and tolls

With small fast-growing companies such as e-Business startups, investors often track expected revenues and revenue growth and may make changes to increase revenue. However, after the **Dot-Com** boom ended, more traditional measures such as cash flow and earnings have come back into favor as means of evaluation.

### iv. Activities, Resources and Capabilities

The activities, resources and capabilities of a business are sometimes known as its requirements. In order to perform the activities required to carry out the **mission** of the business, certain resources are needed; for example, employees with certain skills, or capabilities, are needed to perform activities correctly and efficiently. Also, inventions, processes and other **intellectual property** may add to the individual knowledge of an employee to develop a competence in the performance of the required activities.



#### **a. Activities**

Activities are specific business processes or groups of processes such as design, production and sales that implement the business concept. The operational business model identifies the costs and outputs of each activity. Activities drive the need for resources.

#### **b. Resources**

In order to perform activities an organization requires human, tangible, intangible and supporting resources.

Human resources, in particular the skills and knowledge of employees are important, as are the programs (e.g. incentives, training) and institutions that support them.

Tangible, or physical and financial, resources include facilities, equipment, and cash reserves.

Intangible resources include intellectual property, business processes that can be patented, brands, customer profiles and personalization data in databases, and customized software.

Supporting resources include organizational structure, information systems or communications processes that may have little value as stand-alone resources.

#### **c. Capacity**

The total resources of the organization represent its *capacity*. When resources are underutilized, the company has resources that aren't used, or *idle capacity*. Idle capacity in manufacturing tends to be measured in terms of additional output that could be produced. In service organizations the measure for idle capacity is usually a number of employees. Resource capacity can also be measured in job-hours, machine-hours, sales per employee, or square feet. Often these are compared with industry standards to assess the efficiency of the organization.

Capacity also represents a constraint to growth. Demand for product or services may exceed capacity and managers may take a variety of steps to temporarily resolve the problem: overtime for existing employees, additional shifts to increase the utilization of equipment, contracting to outside entities, even competitors. For example, a software company may outsource code writing, which is standard fare - almost a routine activity, in order to increase its design capacity.

## 2.6 E-Business Models

An e-business model is simply the approach a company takes to become a profitable business on the Internet. There are many buzzwords that define aspects of electronic business, and there are subgroups as well, such as content providers, auction sites and pure-play Internet retailers in the business-to-consumer space.

E-Commerce or Electronics Commerce business models can generally be categorized into the following types.

Business - to - Business (B2B)

Business - to - Consumer (B2C)

Consumer - to - Consumer (C2C)

Consumer - to - Business (C2B)

Business - to - Government (B2G)

Government - to - Business (G2B)

Government - to - Citizen (G2C)

### 2.6.1 Business - to - Business (B2B)

A type of commerce transaction that exists between businesses, such as those involving a manufacturer and wholesaler, or a wholesaler and a retailer is known as Business-to-Business (B2B). It refers to business that is conducted between companies, rather than between a company and individual consumers. This is in contrast to business to consumer (B2C) and business to government (B2G). Website following B2B business model sells its product to an intermediate buyer who then sells the product to the final customer. For example, a wholesaler places an order from a company's website and after receiving the consignment, sells the end product to final customer who comes to buy the product at wholesaler's retail outlet.

B2B implies that seller as well as buyer is business entity. B2B covers large number of applications which enables business to form relationships with their distributors, resellers, suppliers etc.

IBM, Hewlett Packard (HP), CISCO, Dell are the examples of B2B. Chemconnect.com and chemdex.com are the examples of B2B that brings two firms together on the virtual market. Following are the leading items in B2B e-Commerce.

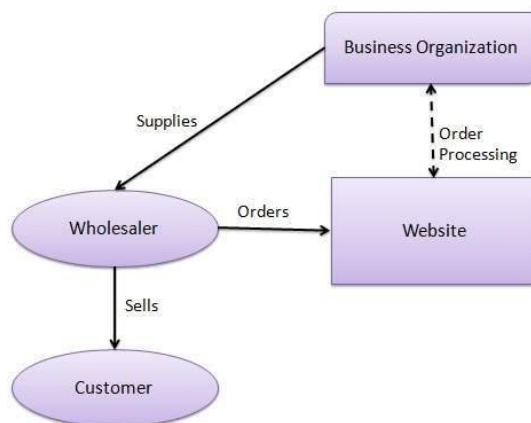
- Electronics
- Shipping and Warehousing

- Motor Vehicles
- Petrochemicals
- Paper
- Office products
- Food
- Agriculture

B2B applications can be witnessed in the following areas:

- ❖ Supplier management
- ❖ Inventory management
- ❖ Distribution management
- ❖ Channel management
- ❖ Payment management

Diagrammatic Representation of B2B Model



### Models in B2B:

The B2B model can be supplier centric, buyer centric or intermediary centric models

#### Supplier Centric Model

In this model, a supplier sets up the electronic commerce market place. Various customers interact with the supplier at its electronic market place. The supplier is generally a dominant supplier. He may

provide customized solutions and pricing to fit the needs of buyers. Intel and Cisco have been adopting the supplier centric Model.

#### **Buyer centric Model**

In this model, big business organisations with high volume purchase capacity create an electronic commerce market place. The online electronic commerce marketplace is used by the buyer for placing requests for quotations and carrying out the entire purchase process. The US government and the General Electric Trading Process Network are examples of buyer-centric model.

#### **Intermediary – centric model**

In this model, a third party sets up the electronic commerce market place. The third party attracts both buyer and seller to interact with each other at its market place. The buyer places their request interacts with each other and reaches a final decision in purchase or sale of goods.

#### **Advantages of B2B**

Selling products to businesses using an online channel is much more complex than selling to private customers. In addition to the way that you approach the customer, which is different than in the B2C sector, there is a whole range of other differences that are essential to understand and that can be advantageous. The following are the advantages of B2B model.

**1. Instant purchases:** Online business allows for instant purchases. Now, companies can do almost everything over the internet. They can get in contact with the company they are seeking to transact with, make a first time transaction, and then set up a system for future transactions. This allows for frequent purchases. Under frequent purchases, prices usually drop. Therefore, there is saving in time and money.

**2. Increased revenue:** 24/7 online ordering will increase companies' revenue. Many different time zones exist in the world and potential clients might not have the same business hours as you. By allowing for companies to make transactions all the time, the time zone becomes irrelevant. For example: If it is 10 am in your clients' time zone and 2 am in your time zone, your client can still make purchases. By offering products at all hours of the day, revenue will increase for the company.

**3. Expands company's presence:** If your company has joined the online community, than it is expanding its presence and increasing its brand awareness. Nowadays, you can find just about anything over the internet. Why not allow for people to find your company too?

**4. Closer business relationships:** Doing business with other companies online will create closer business relationships. This will result in more transactions. This frequent buying builds a stronger relationship. Although this does not require face to face interaction, it does allow for businesses to get more familiar with each other.

### **The Disadvantages of a B2B**

Companies that embrace a B2B, model, stand to capture significant profit through the sales of high-cost products or sheer bulk orders. B2B practices diverge in several and significant ways from standard business-to-consumer practices. Although some differences entail simple changes in perspective, others create disadvantages for companies seeking to sell to other businesses.

#### **1. Limited Market**

Businesses selling to other businesses face a much smaller buying group than businesses selling to consumers. The total number of prospective buyers may be in thousands, rather than the potential millions of customers for consumer products. These limited numbers make every lead and every existing customer more valuable and the loss of a single, large customer can devastate the bottom line. For example, if you supply parts to businesses in mature markets, where only a handful of competitors normally operate, your business might not survive if one of your buyers closes shop.

#### **2. Long Purchase Decision Time**

The majority of consumer purchase decisions involve one or perhaps two decision makers and the total time for a purchase decision tends to run on the short side. The B2B sales cycle involves a complicated set of factors, involving multiple stakeholders and decision-makers, with total decision times that can stretch out for months. B2B sellers cannot depend on a fast turnaround with new clients for an influx of working capital and must maintain the financial solvency to operate with long gaps between sales.

#### **3. Inverted Power Structure**

In B2B, buyers wield more power than sellers. A B2B buyer can, also within limits, demand certain customizations, impose exacting specifications and drive a hard line with pricing because the seller depends much more heavily on retaining its customers. This requires B2B sellers to retain a level of flexibility in both product development and production.

#### 4. Sales Process

The typical sale process in B2B demands considerable face time, often multiple meetings, and gets driven by quantifiable factors, rather than the qualitative and emotional factors. The sales process often depends on the salesperson's ability to demonstrate what the product does or allows modifications that solve the very specific problem the buyer faces, and can deliver a solid return on investment.

##### 2.6.2 Business - to - Consumer (B2C)

As the name suggests, it is the model involving business and consumers over the internet. B2C means selling directly to the end consumer or selling to an individual rather than a company. Website following B2C business model sells its product directly to a customer. A customer can view products shown on the website of business organization. The customer can choose a product and order the same. Website will send a notification to the business organization via email and organization will dispatch the product/goods to the customer. B2C is also known as internet retailing or E-trailing.

- The B2C model includes electronic shopping, information searching (e.g. railway timetables) but also interactive games delivered over the Internet.
- Popular items sold using B2C model are airline tickets, books, computers, videotapes, music CDs, toys, music, health and beauty products, jewellery etc..

Following are the key features of a B2C Model

- Heavy advertising required to attract large number of customers.
- High investment in terms of hardware/software.
- Support or good customer care service

Consumer Shopping Procedure

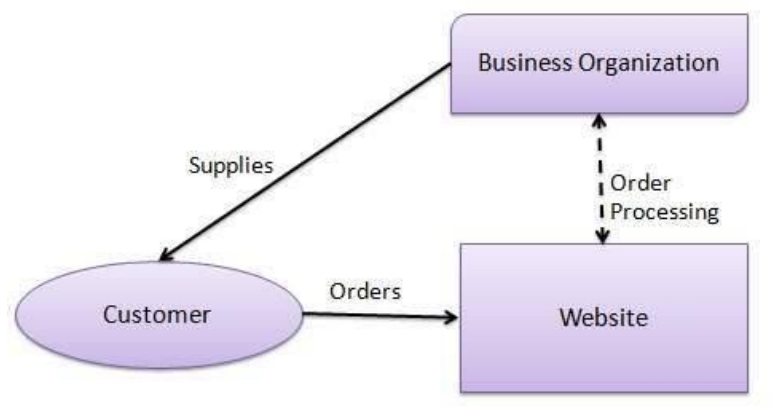
Following are the steps used in B2C e-commerce –

A consumer

- Determines the requirement.
- Searches available items on the website meeting the requirement.
- Compares similar items for price, delivery date or any other terms.
- Gives the order.
- Pays the bill.
- Receives the delivered item and review/inspect them.

- Consults the vendor to get after service support or returns the product if not satisfied with the delivered product.

#### Diagrammatic representation of B2C Model



#### Advantages of E-Commerce for B2C Businesses

Benefits of B2C e-commerce can be considered either from the viewpoint of the consumer or from that of the business.

##### From the consumer side, benefits include:

1. Access to goods and services from home or other remote locations.
2. The possibility of lower cost of goods and services.
3. Access to a greater variety of goods and services on offer.
4. Consumers can shop at any time of day, from the privacy of their own home. The internet has been called “the mall that never sleeps.”
5. So many choices – Consumers can shop for basically any item they can think of! Airline tickets, groceries, clothing, and even medicine!
6. Hassle free – Consumers can shop online without dealing with annoying sales people, fighting the congestion of shopping malls, and driving 10 different places to find one thing.

**From the business side, benefits include:**

1. Lower transaction costs associated with sales.
2. Access to global markets and hence to more potential customers.
3. Can reach worldwide market with unlimited volume of customers.
4. Can display information, pictures, and prices of products or services without spending a fortune on colourful advertisements.
5. In some cases, makes order processing an easier task than before.
6. Can operate on decreased, little, or even no overhead

**Disadvantage of E-Commerce for B2C Businesses**

1. The competition is so fast for the web. There can literally be thousands of places a customer can go and purchase the same product.
2. Technology problem can cause problems to operate the site properly, resulting in losing customers and sales.
3. Catalogue Inflexibility: The catalogue needs to regenerate every time when there is some new information or items to add in.
4. Limited Market Place: Normally, customer will be from locally and limited to certain area.
5. High Sales Cycle: Usually, a lot of phone calls and mailings are needed.
6. Required Higher Cost of Doing Business: Cost regarding inventory, employees, purchasing costs, and order-processing costs associated with faxing, phone calls, and data entry, and even physical stores increase transaction costs.
7. Inefficient Business Administration: Store inventory levels, shipping and receiving logs, and other business administration tasks might need to be categorized and updated manually in and done only when have time. This cause the information might not the latest or updated.
8. Need to employ number of staff: Need staffs that give customer service and sales support service.

**Disadvantages for the consumer**

1. Security issue: probably the number one reason why people don't purchase online. Credit card information is very sensitive and must be handled by someone the customer can trust. Scams, frauds and rip-off are not uncommon on the web.
2. Customer services: consumer are not always satisfied with their purchases and when buying online.

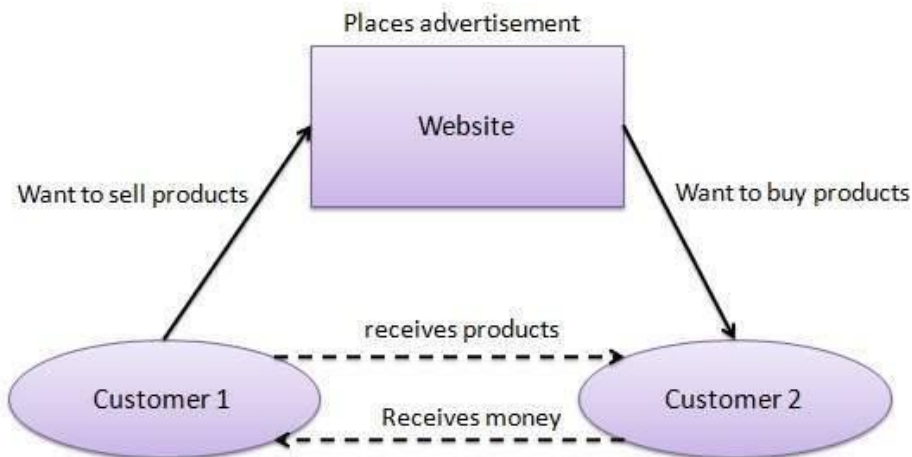


### 2.6.3 Consumer - to - Consumer (C2C)

Customer to Customer (C2C), sometimes known as Consumer to Consumer, E-Commerce involves electronically-facilitated transactions between individuals, often through a third party. One common example is online auctions, such as Ebay, where an individual can list an item for sale and other individuals can bid to purchase it. Auction sites normally charge commission to the sellers using them. They act purely as intermediaries who match buyers with sellers and they have little control over the quality of the products being offered, although they do try to prevent the sale of illegal goods, such as pirate CDs or DVDs.

Website following C2C business model helps consumer to sell their assets like residential property, cars, motorcycles etc. or rent a room by publishing their information on the website. Website may or may not charge the consumer for its services. Another consumer may opt to buy the product of the first customer by viewing the post/advertisement on the website.

Another popular area for customer to customer transactions is online classified advertising sites, such as Craigslist and Gumtree. Major online retailers like Amazon also allow individuals to sell products via their sites.



C2C is expected to increase in the future because it minimises the costs of using third parties. However, it does suffer from some problems, such as lack of quality control or payment guarantees and there can sometimes be difficulties in making credit-card payments.

- ❖ The same customer can act as both buyer as well as seller
- ❖ The online market place will allow buyer to browse products by using different criteria such as; best seller, most popular product, from your city and many more
- ❖ Different sellers can bid on the products with list item listed by the buyer, what they are looking for so that the buyer can get different best prices and offers from sellers
- ❖ The social media linking functionalities include, community or forum discussion and blog and other social media website link interface.
- ❖ The back end interface includes features for administration to manage buyer and seller accounts, payment settings, gallery setting, etc.

#### **Advantages of C2C E-Commerce**

- It is always available so that consumers can have access to whenever they feel like shopping
- There is regular updating of the website
- Consumers selling products to other consumers benefit from the higher profitability that result from selling directly to one another
- There is a low transaction cost; sellers can post their goods over the internet at a cheaper rate far better than higher price of renting a space in a store
- Customer can directly contact sellers and do without an intermediary.

#### **Disadvantages of C2C E-Commerce**

- Payment made has no guarantee
- There could be theft as scammers might try to create their website with names of some famous C2C websites such as eBay to attract customers.
- There is lack of controlling quality of the products.

C2C e-commerce websites must update their technologies to suit the current happenings in their business. It is every body's wish to buy or sell without any threat to their security. C2C e-commerce websites to upgrade their security measures to arrest the situation of scammers and fraudsters that pose threat to the security of consumers and sellers. C2C e-commerce websites should increase their payment technology to allow consumers to purchase products at ease.

#### 2.6.4 Consumer - to - Business (C2B)

Customer to Business (C2B), sometimes known as Consumer to Business, is the most recent E-Commerce business model. In this model, individual customers offer to sell products and services to companies who are prepared to purchase them. This business model is the opposite of the traditional B2C model.

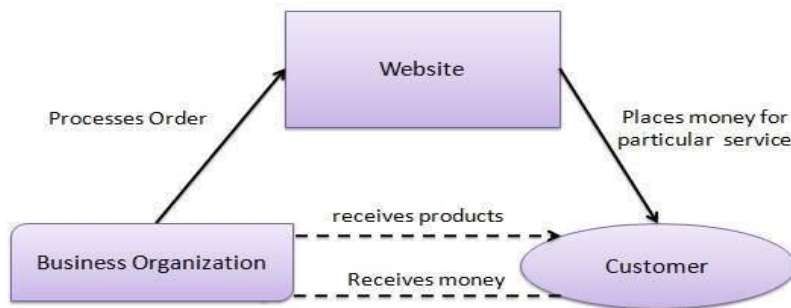
**C2B (Customer to Business)** is a model where initiative comes from the customers (consumers) and enterprises are the target group. The customers actively contact the enterprises via the Internet and raise questions, suggestions and ideas that can be used, for example for product or service innovation. The enterprises can facilitate the C2B model by setting, for example discussions forums on their websites or their pages on social networks. In these cases, the Word Of Mouth Marketing applies.

In this model, a consumer approaches website showing multiple business organizations for a particular service. Consumer places an estimate of amount he/she wants to spend for a particular service. For example, comparison of interest rates of personal loan/ car loan provided by various banks via website. Business organization that fulfils the consumer's requirement within specified budget approaches the customer and provides its services.

Elance was one of the first web sites to offer this type of transactions. It allows sellers to advertise their skills and prospective buyers to advertise projects. Similar sites such as People per hour and Guru work on the same basis.

##### General features of C2B

- **Direct action.**
- **Collaborative consumption.**
- **Detailed segmentation.**
- **Interaction.**
- **Reciprocity.**
- **Bi-directionality.**



The advent of the C2B scheme is due to major changes:

- Connecting a large group of people to a bidirectional network has made this sort of commercial relationship possible. The large traditional media outlets are one direction relationship whereas the internet is bidirectional one.
- Decreased cost of technology : Individuals now have access to technologies that were once only available to large companies ( digital printing and acquisition technology, high performance computer, powerful software)

There are only a few kinds of companies whose trading models could be considered as C2B.

Online Advertising sites like Google AdSense, affiliation platforms like Commission Junction and affiliation programs like Amazon are the best examples of C2B schemes. Individuals can display advertising banners, contextual text ads or any other promotional items on their personal websites. Individuals are directly commissioned to provide an advertising/selling service to companies.

The new C2B business model is a revolution because it introduces a new collaborative trading scheme paving the way for new applications and new socio-economical behaviours

### **Advantages and Disadvantages of C2B**

#### **C2B Advantages**

1. Could be described in terms of paths, nodes, properties
2. Could be graphic, examples could be generated.
3. One single place for all Magnolia configurable elements.
4. Could still be linked to java doc

### 2.6.5 Brokerage Model

Brokers are market-makers: They bring buyers and sellers together and facilitate transactions. The Brokerage Model in e-commerce resembles the offline brokerage model where the broker acts as a third party connecting sellers and buyers to a transaction and charges fees for their services. The advantage of e-commerce affords brokers the ability to connect buyers and sellers globally in contrast to the offline world where a broker may be restricted to a certain region within their local market.

For example, in the offline world, a mortgage broker who connects people looking to purchase a house with financial institutions who sell Mortgages, may be restricted to their local area, hence creating a finite group of potential buyers.

In contrast, as a result of the Internet's inherent globalisation an e-commerce mortgage broker has the potential to reach people located outside their local area, in other states and other countries, drastically increasing the number of potential buyers, their ability to connect more buyers with sellers, and thus make better profits. It is well documented that eBay is one of the most successful Auction Brokers in e-commerce.

eBay, like most companies on the Web, employ a number of business models in order to make money. While the dominant model they leverage is the Brokerage model, eBay also utilise the affiliate, advertising and community business models to sustain their presence in e-commerce.

Brokers play a frequent role in business-to-business (B2B), business-to-consumer (B2C), or consumer-to-consumer (C2C) markets. Usually a broker charges a fee or commission for each transaction it enables. The formula for fees can vary. **Brokerage models include:**

**Marketplace Exchange** -- provides a full range of services covering the transaction process, from market assessment to negotiation and fulfilment, for a particular industry. The exchange can operate independently of the industry, or it can be backed by an industry consortium. The broker typically charges the seller a transaction fee based on the value of the sale. There also may be membership fees.

**Business Trading Community** -- or vertical web community, is a comprehensive source of information and interaction for a particular vertical market. A community may contain product information, daily industry news and articles, job listings and classifieds.

**Buy/Sell Fulfilment** -- customer specifies buy or sell orders for a product or service, including price, delivery, etc. The broker charges the buyer and/or seller a transaction fee.

**Demand Collection System** -- the patented "name-your-price" model pioneered by Priceline. Prospective buyer makes a final (binding) bid for a specified good or service, and the broker arranges fulfilment.

**Auction Broker** -- conducts auctions for sellers (individuals or merchants). Broker charges the seller a listing fee and commission scaled with the value of the transaction. Auctions vary in terms of the offering and bidding rules. Reverse auctions are a common variant.

**Transaction Broker** -- provides a third-party payment mechanism for buyers and sellers to settle a transaction. [fsbohouse.com]

**Bounty Broker** -- offers a reward for finding a person, thing, idea, or other desired, but hard to find item. The broker may list items for a flat fee and a percent of the reward for items that are found.

**Distributor** -- is a catalogue operation that connects a large number of product manufacturers with volume and retail buyers. Broker facilitates business transactions between franchised distributors and their trading partners.

**Search Agent** -- is an agent (i.e., a software agent or "robot") used to search-out the price and availability for a good or service specified by the buyer, or to locate hard to find information?

**Virtual Mall** -- hosts online merchants. The Mall typically charges setup, monthly listing, and/or per transaction fees. More sophisticated malls provide automated transaction services and relationship marketing opportunities

#### **2.6.6 Value chain Model**

A value chain for a product is the chain of actions that are performed by the business to add value in creating and delivering the product. Activities which comprise of the value chain are undertaken by companies to produce and sell product and services. All companies undertake series of activities in order to deliver a product to the customers. These series of activities understand customer needs, designing products, procuring materials, production, storage of products, distribution of products, after sale services of products and customer care.

The function of value chain activities is to add value to product at every stage before it is delivered to the customers. There are two components, which make value chain - primary activities and secondary activities. The primary activities are directly associated with the

manufacturing of products like supply management, plant operations, etc. The secondary activities are referred to as support functions such as finance, HR, information technology, etc.

G. Winfield Treese and Lawrence C. Stewart suggest four general value-chain areas:

- Attract -- in which you get and keep customer interest, and includes advertising and marketing
- Interact -- in which you turn interest into orders, and includes sales and catalogues
- Act -- in which you manage orders, and includes order capture, payment, and fulfilment
- React -- in which you service customers, and includes technical support, customer service, and order tracking.

In the era of advanced information and communication technology, many businesses have started operations on the internet as its medium. Through the internet, many commercial activities like buying, selling, auctioning is taking place. This online commercial activity is known as e-commerce. E-commerce value chain has series of activities like electronic fund transfer, internet marketing, distribution channel, supply chain etc.

#### **2.6.7 Advertising Model**

The web-advertising model is an extension of the traditional media broadcast model. The broadcaster is a web site, provides content and services like e-mail, chat, forums mixed with advertising messages in the form of banner ads. The banner ads may be the major or sole source of revenue for the broadcaster. The broadcaster may be a content creator or a distributor of content created elsewhere. The advertising model only works when the volume of viewer traffic is large or highly specialized.

#### **Other E-Business Models**

##### **2.6.8 Business-to-Government (B-to-G):**

Business-to-government (B2G) e-commerce is concerned with the need for business to sell goods or services to governments or government agencies. Such activities include supplying the army, police force, hospitals and schools with products and services. Furthermore, businesses will often compete in an online environment for contracts to provide services to the public on behalf of the government. Such services may include the collection of taxes, and the supply of public services. The exchange of information, services and products between business organizations and government agencies on-line. This may include,

- *E-procurement services*, in which businesses learn about the purchasing needs of agencies and provide services.
- *A virtual workplace* in which a business and a government agency could coordinate the work on a contracted project by collaborating on-line to coordinate on-line meetings, review plans and manage progress.
- *Rental of on-line applications and databases* designed especially for use by government agencies.

#### **2.6.9 Business-to-Peer Networks (B-to-P):**

This would be the provision of hardware, software or other services to the peer networks. An example here would be Napster who provided the software and facilities to enable peer networking.

#### **2.6.10 Consumer-to-Government (C-to-G):**

Examples where consumers provide services to government have yet to be implemented. See Government-to-Business.

#### **2.6.11 Consumer-to-Peer Networks (C-to-P):**

This is exactly part of what peer-to-peer networking is and so is a slightly redundant distinction since consumers offer their computing facilities once they are on the peer network.

#### **2.6.12 Government-to-Business (G-to-B):**

Also known as e-government, the exchange of information, services and products between government agencies and business organizations. Government sites now enable the exchange between government and business of:

- Information, guidance and advice for business on international trading, sources of funding and support (ukishelp), facilities (e.g. [www.dti.org.uk](http://www.dti.org.uk)).
- A database of laws, regulations and government policy for industry sectors.
- On-line application and submission of official forms (such as value added tax).
- On-line payment facilities.

This improves accuracy, increases speed and reduces costs, so businesses are given financial incentives to use electronic-form submission and payment facilities.



#### **2.6.13 Government-to-Consumer (G-to-C):**

It is also known as e-government. Government sites offering information, forms and facilities to conduct transactions for individuals, including paying bills and submitting official forms on-line such as tax returns.

#### **2.6.14 Government-to-Government (G-to-G):**

It is also known as e-government. Government-to-government transactions within countries linking local governments together and also international governments, especially within the European Union, which is in the early stages of developing coordinated strategies to link up different national systems.

#### **2.6.15 Peer-to-Peer Network (P-to-P):**

This is the communications model in which each party has the same capabilities and either party can initiate a communication session. In recent usage, peer-to-peer has come to describe applications in which users can use the Internet to exchange files with each other directly or through a mediating server.

#### **2.6.16 Peer Network-to-Consumer (P-to-C):**

This is in effect peer-to-peer networking, offering services to consumers who are an integral part of the peer network.

#### **2.6.17 Peer Network-to-Business (P-to-B)**

Peer-to-peer networking provides resources to business. For example, using peer network resources such as the spare processing capacity of individual machines on the network to solve mathematical problems or intensive and repetitive DNA analyses which requires very high capacity processing power.

#### **M-commerce:**

Mobile commerce is the buying and selling of goods and services through wireless technology-i.e., handheld devices such as cellular telephones and personal digital assistants (PDAs). Japan is seen as a global leader in m-commerce. As content delivery over wireless devices becomes faster, more secure, and scalable, some believe that m-commerce will surpass wire line e-commerce as the method of choice for digital commerce transactions.

Industries affected by m-commerce include:

- **Financial services**, including mobile banking as well as brokerage services.

- **Telecommunications**, in which service changes, bill payment and account reviews can all be conducted from the same handheld device;
- **Service/retail**, as consumers are given the ability to place and pay for orders on-the-fly; and
- **Information services**, which include the delivery of entertainment, financial news, sports figures and traffic updates to a single mobile device.

This framework can be used by organizations to segment their customers and distinguish the different needs, requirements, business processes, products and services that are needed for each.

## 2.7 Summary

An electronic business model is an important baseline for the development of e-commerce system applications. Essentially, it provides the design rationale for e-commerce systems from the business point of view. However, how an e-business model must be defined and specified is a largely open issue. We therefore present what should be in an e-business model. There is little doubt that the Internet has introduced new and innovative business models to both the B2B and B2C markets. It has shortened the value chain and put increasing pressure on all players, but especially intermediaries, to add value or risk extinction.

## 2.8 Key Terms

1. **Portal** is a doorway, entrance, or gate, especially one that is large and imposing
2. **Portal space** is used to mean the total number of major sites competing to be one of the portals
3. **Business model** is the method of doing business by which a company can sustain itself -- that is, generate revenue
4. **E-Business model** is simply the approach a company takes to become a profitable business on the Internet
5. **B2B**: A type of commerce transaction that exists between businesses
6. **B2C**: It is the model involving business and consumers over the internet
7. **C2C**: E-Commerce involves electronically-facilitated transactions between individuals, often through a third party