

# **BSc CsIt SEM - VI**

## **E-Commerce**

### **Unit 2: E-Commerce Business Model (8 Hrs)**

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#### **Syllabus:**

##### **Unit 2: E-commerce Business Model (8 Hrs.)**

E-commerce Business Model, Elements of Business Model, Types of Revenue Models, B2C Business Models: E-tailer, Community Provider, Content Provider, Portal, Transaction Broker, Market Creator, Service Provider, B2B Business Models: Net Market Places (Edistributor, E-procurement, Exchanges, Industry Consortia), Private Industrial Networks (Single Firm, Industry Wide), Electronic Data Interchange (EDI), EDI Layered Architecture, EDI in E-commerce, E-commerce and Industry Value Chain, Firm Value Chain, Firm Value Web, Case Studies of Global and Local E-commerce Systems

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#### **E-commerce Business Model**

A business model is a set of planned activities (sometimes referred to as business processes) designed to result in a profit in a marketplace. A business model is not always the same as a business strategy, although in some cases they are very close insofar as the business model explicitly takes into account the competitive environment. The business model is at the center of the business plan. A business plan is a document that describes a firm's business model. A business plan always takes into account the competitive environment. An e-commerce business model aims to use and leverage the unique qualities of the Internet, the Web, and the mobile platform.

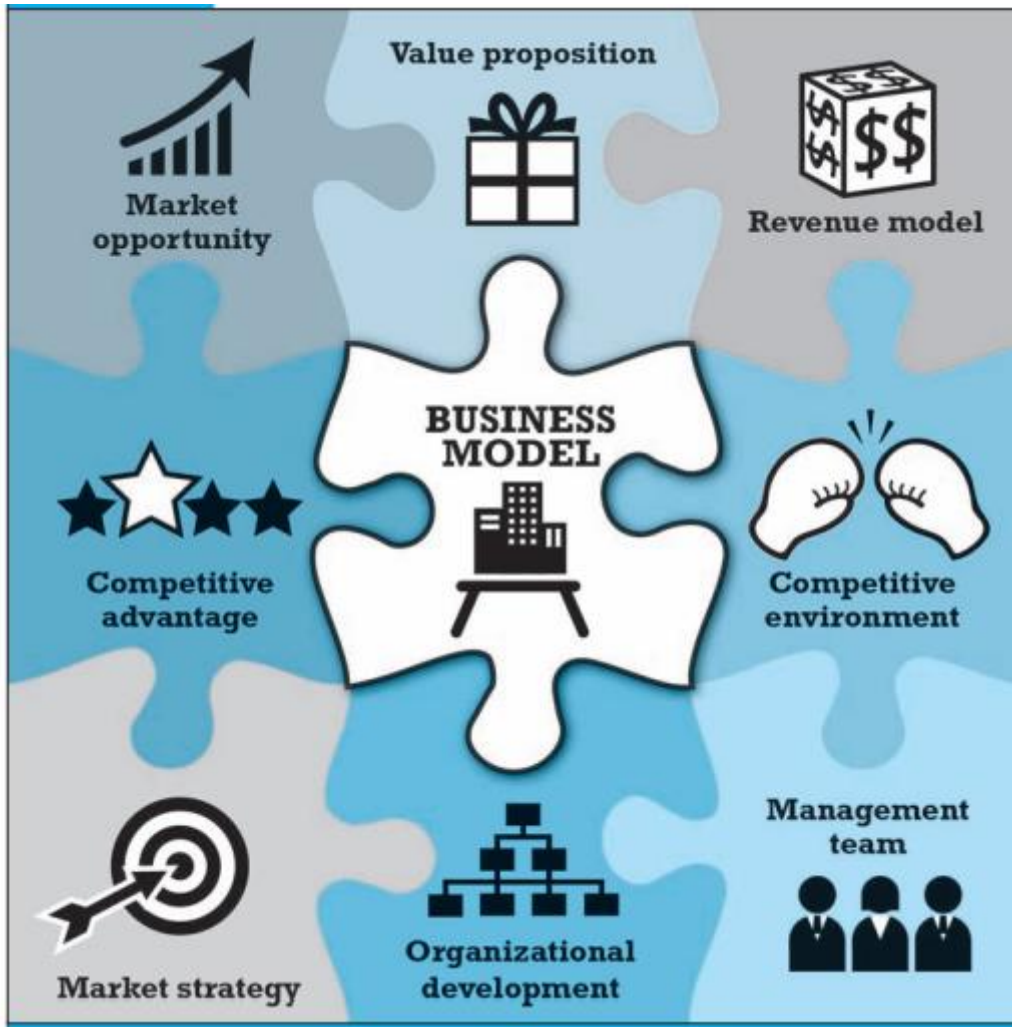
#### **Elements of Business Model**

In order to develop a successful business model there, have to be effectively addresses the following elements listed below.

- 1. Value Proposition**
- 2. Revenue Model**
- 3. Market Opportunity**
- 4. Competitive Environment**
- 5. Competitive Advantage**
- 6. Market Strategy**
- 7. Organizational Development**
- 8. Management Team.**

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**Fig: ELEMENTS OF A BUSINESS MODEL**

#### **1.Value Proposition**

A value proposition defines how a company's product or service fulfils the needs of customers. To develop or analyse a firm's value proposition, you need to understand why customers will choose to do business with the firm instead of another company and what the firm provides that other firms do not and cannot. From the consumer point of view, successful e-commerce value propositions include personalization and customization of product offerings, reduction of product search costs, reduction of price discovery costs, and facilitation of transactions by managing product delivery.

For instance, before Amazon existed, most customers personally travelled to book retailers to place an order. In some cases, the desired book might not be available, and the customer would have to wait several days or weeks, and then return to the bookstore to pick it up. Amazon makes it possible for book lovers to shop for virtually any book in print from the comfort of their home or office, 24 hours a day, and to know immediately whether a book is in stock. Amazon's Kindle takes this one step further by making e-books instantly available with no shipping wait.

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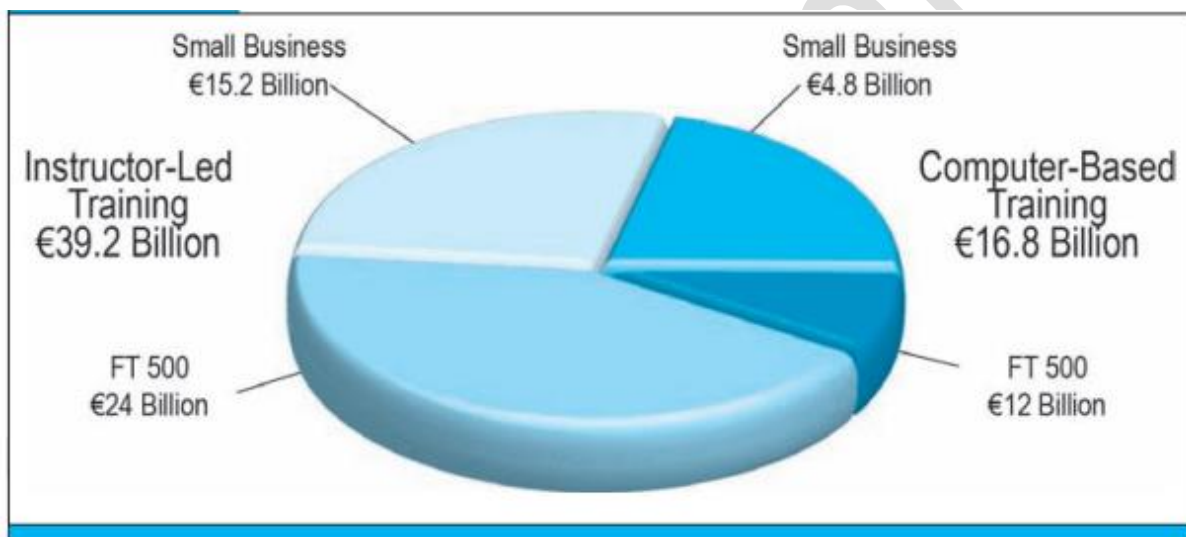
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### 2.Revenue Model

A firm's revenue model describes how the firm will earn revenue, generate profits, and produce a superior return on invested capital. We use the terms revenue model and financial model interchangeably. The function of business organizations is both to generate profits and to produce returns on invested capital that exceed alternative investments. Profits alone are not sufficient to make a company "successful". In order to be considered successful, a firm must produce returns greater than alternative investments. Firms that fail this test go out of existence.

### 3.Market Opportunity

The term market opportunity refers to the company's intended marketplace (i.e., an area of actual or potential commercial value) and the overall potential financial opportunities available to the firm in that marketplace. The market opportunity is usually divided into smaller market niches. The realistic market opportunity is defined by the revenue potential in each of the market niches where you hope to compete.



**Fig: Marketplace and Market Opportunity in the €56 Billion Software Training Market**

For instance, let's assume you are analysing a software training company that creates online software-learning systems for sale to businesses. The overall size of the software training market for all market segments is approximately €56 billion. The overall market can be broken down, however, into two major market segments: instructor-led training products, which comprise about 70% of the market (€39.2 billion in revenue), and computer-based training, which accounts for 30% (€16.8 billion).

There are further market niches within each of those major market segments, such as the FT 500 computer-based training market and the small business computer-based training market. Because the firm is a start-up firm, it cannot compete effectively in the large business, computer-based training market (about €12 billion). Large brand-name training firms dominate this niche. The start-up firm's real market opportunity is to sell to the thousands of small business firms that spend about €4.8 billion on computer-based software training. This is the size of the firm's realistic market opportunity as shown in above figure.

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### 4. Competitive Environment

A firm's competitive environment refers to the other companies selling similar products and operating in the same marketplace. It also refers to the presence of substitute products and potential new entrants to the market, as well as the power of customers and suppliers over your business.

The competitive environment for a company is influenced by several factors:

- How Many Competitors Are Active?
- How Large Their Operations Are?
- What The Market Share of Each Competitor Is?
- How Profitable These Firms Are? And
- How They Price Their Products?

Firms typically have both direct and indirect competitors.

**Direct competitors:** Direct competitors are companies that sell very similar products and services into the same market segment. For example, Priceline and Travelocity, both of whom sell discount airline tickets online, are direct competitors because both companies sell identical products—cheap tickets.

The other popular direct competitors are Boeing and Airbus or Chevy and Ford. In the same way, Coke and Pepsi, Bru Coffee and Nescafe Coffee, Verizon and Sprint, Petco and PetSmart, etc are some of the common examples of direct competition.

**Indirect competitors:** Indirect competitors are companies that may be in different industries but still compete indirectly because their products can substitute for one another. For instance, automobile manufacturers and airline companies operate in different industries, but they still compete indirectly because they offer consumers alternative means of transportation. CNN, a news outlet, is an indirect competitor of ESPN, not because they sell identical products, but because they both compete for consumers' time online.

The existence of a large number of competitors in any one segment may be a sign that the market is saturated and that it may be difficult to become profitable. On the other hand, a lack of competitors could signal either an untapped market niche ripe for the picking, or a market that has already been tried without success because there is no money to be made. Analysis of the competitive environment can help you decide which it is.

Example, consider a client who needs to buy gifts for a birthday party. One store sells clothing. A store across the street sells jewellery. Despite the different products, the two stores are competing for the same customer.

### 5. Competitive Advantage

Firms achieve a competitive advantage when they can produce a superior product or bring the product to market at a lower price than most, or all, of their competitors. Firms also compete on scope. Some firms can develop global markets, while other firms can develop only a national or regional market. Firms that can provide superior products at the lowest cost on a global basis are truly advantaged.

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Firms achieve competitive advantages because they have somehow been able to obtain differential access to the factors of production that are denied to their competitors—at least in the short term. Perhaps the firm has been able to obtain very favourable terms from suppliers, shippers, or sources of labour.

Or perhaps the firm has more experienced, knowledgeable, and loyal employees than any competitors. Maybe the firm has a patent on a product that others cannot imitate, or access to investment capital through a network of former business colleagues or a brand name and popular image that other firms cannot duplicate.

An asymmetry exists whenever one participant in a market has more resources—financial backing, knowledge, information, and/or power—than other participants. Asymmetries lead to some firms having an edge over others, permitting them to come to market with better products, faster than competitors, and sometimes at lower cost.

For instance, when Apple announced iTunes, a service offering legal, downloadable individual song tracks for 99 cents a track that would be playable on any digital device with iTunes software, the company had better-than-average odds of success simply because of Apple's prior success with innovative hardware designs, and the large stable of music firms that Apple had meticulously lined up to support its online music catalogue. Few competitors could match the combination of cheap, legal songs and powerful hardware to play them on.

One rather unique competitive advantage derives from being a **first mover**. A first-mover advantage is a competitive market advantage for a firm that results from being the first into a marketplace with a serviceable product or service. If first movers develop a loyal following or a unique interface that is difficult to imitate, they can sustain their first-mover advantage for long periods.

Amazon provides a good example. However, in the history of technology-driven business innovation, most first movers often lack the complementary resources needed to sustain their advantages, and often follower firms reap the largest rewards.

Some competitive advantages are called “unfair.” An unfair competitive advantage occurs when one firm develops an advantage based on a factor that other firms cannot purchase. For instance, a brand name cannot be purchased and is in that sense an “unfair” advantage. Brands are built upon loyalty, trust, reliability, and quality. Once obtained, they are difficult to copy or imitate, and they permit firms to charge premium prices for their products.

In perfect markets, there are no competitive advantages or asymmetries because all firms have access to all the factors of production (including information and knowledge) equally. However, real markets are imperfect, and asymmetries leading to competitive advantages do exist, at least in the short term. Most competitive advantages are short term, although some can be sustained for very long periods. But not forever. In fact, many respected brands fail every year.

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Companies are said to leverage their competitive assets when they use their competitive advantages to achieve more advantage in surrounding markets. For instance, Amazon's move into the online grocery business leverages the company's huge customer database and years of e-commerce experience.

#### **6. Market Strategy**

A Marketing Strategy is the long-term planning of business objectives that the company wants to achieve. For these to be achieved it is important to choose well the specific actions to consolidate the reputation of products and services or increase sales in the market.

It is important to define how you want to position the product/service in the market in order to achieve positioning among customers and fulfil customer and organization relationship loyalty. Is the method to create sales opportunities, also to communicate and position the product or service and to translate the operational lines that allow reaching a target market through the right channels.

No matter how tremendous a firm's qualities, its marketing strategy and execution are often just as important. The best business concept, or idea, will fail if it is not properly marketed to potential customers. Market strategy is the plan you put together that details exactly how you intend to enter a new market and attract new customers.

For instance, Twitter, YouTube, and Pinterest have a social network marketing strategy that encourages users to post their content on the sites for free, build personal profile pages, contact their friends, and build a community. In these cases, the customer becomes part of the marketing staff!

#### **7. Organizational Development**

Companies that hope to grow and thrive need to have a plan for organizational development that describes how the company will organize the work that needs to be accomplished. Fast-growth companies—especially e-commerce businesses—need employees and a set of business procedures. In short, all firms—new ones in particular—need an organization to efficiently implement their business plans and strategies.

Many e-commerce firms and many traditional firms that attempt an e-commerce strategy have failed because they lacked the organizational structures and supportive cultural values required to support new forms of commerce.

In order to have a plan for organizational development the company have to organize the work that needs to be accomplished. Typically, work is divided into functional departments, such as production, shipping, marketing, customer support, and finance. Jobs within these functional areas are defined, and then recruitment begins for specific job titles and responsibilities. Typically, in the beginning, generalists who can perform multiple tasks are hired. As the company grows, recruiting becomes more specialized. For instance, at the outset, a business may have one marketing manager. But after two or three years of steady growth, that one marketing position may be broken down into seven separate jobs done by seven individuals.

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This is describing what types of organizational structures within the business need to be in place to ensure it runs smoothly and all the necessary work is completed. For example, the process of defining all the functions within a business and the skills necessary to perform each job as well as the process of recruiting and hiring efficient employees.

#### **8. Management Team**

Arguably, the single most important element of a business model is the management team responsible for making the model work. A strong management team gives a model instant credibility to outside investors, immediate market-specific knowledge, and experience in implementing business plans. A strong management team may not be able to salvage a weak business model, but the team should be able to change the model and redefine the business as it becomes necessary.

Eventually, most companies get to the point of having several senior executives or managers. How skilled managers are, however, can be a source of competitive advantage or disadvantage. The challenge is to find people who have both the experience and the ability to apply that experience to new situations.

To be able to identify good managers for a business start-up, first consider the kinds of experiences that would be helpful to a manager joining your company. What kind of technical background is desirable? What kind of supervisory experience is necessary? How many years in a particular function should be required? What job functions should be fulfilled first: marketing, production, finance, or operations? Especially in situations where financing will be needed to get a company off the ground, do prospective senior managers have experience and contacts for raising financing from outside investors?

#### **Types of Revenue Models**

A revenue model is a part of the business model that explains different mechanisms of income generation and its sources. This is a high-level answer to the question that asks how we will generate revenue from the value we bring to a certain customer group.

A revenue model is the means by which a business plans to make money. Depending on the revenue model, a company may take into consideration manufacturing, purchasing, distribution, marketing, and other costs, until the business arrives at a profit.

Although there are many different e-commerce revenue models that have been developed, most companies rely on one, or some combination, of the following major revenue models:

- 1. Advertising**
- 2. Subscription**
- 3. Transaction Fee**
- 4. Sales**
- 5. Affiliate.**



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Table below summarizes these major revenue models.

REVENUE MODEL	EXAMPLES	REVENUE SOURCE
Advertising	Yahoo	Fees from advertisers in exchange for advertisements
Subscription	eHarmony Consumer Reports Online Netflix	Fees from subscribers in exchange for access to content or services
Transaction Fee	eBay E*Trade	Fees (commissions) for enabling or executing a transaction
Sales	Amazon L.L.Bean Birchbox iTunes	Sales of goods, information, or services
Affiliate	MyPoints	Fees for business referrals

**Fig: Primary Revenue Models**

#### **1. Advertising revenue model**

In the **advertising revenue model**, there is always a commission charged to advertisers to put up their advertisements in a well-known online marketing platform. This is the classic principle that is being followed for the business categorized for the Advertising Revenue model. They take advantage of the huge traffic who regularly visit the chosen platform to shop around, see the ad and get redirected to the actual site. Yahoo, for instance, derives a significant amount of revenue from display and video advertising.

The Advertising Revenue Model presents an indirect way of earning revenue through a digital platform and the conventional ways of putting up ads generally include display marketing that includes a super banner, wallpaper, skyscraper or rectangular ads. These are paid according to the traffic that is driven from the platform through the ads. The general income structure is based on the invoices raised against Cost per Click (CPC) or Cost per Action (CPA). Apart from the regular display marketing strategies that are aimed to redirect the traffic coming onto the eCommerce platform into the address where the ads are linked, affiliate marketing and search engine marketing are other famous ways.

Google Adwords and Adsense are among the most trending and reliable options that allow you to place your ads through the Google Search engine allowing you to bring your business website to the top of the search results when searched with the related keywords. Similar platforms are Facebook and the Online news that allows you to display ads based on a Cost Per Mile (CPM) basis.



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### 2.Subscription revenue model

In the **subscription revenue model**, a company that offers content or services and charges a subscription fee for access to some or all of its offerings. For instance, the digital version of Consumer Reports provides online and mobile access to premium content, such as detailed ratings, reviews, and recommendations, only to subscribers, who have a choice of paying some amount as a monthly subscription fee or a as aggregate amount as an annual fee. Experience with the subscription revenue model indicates that to successfully overcome the disinclination of users to pay for content, the content offered must be perceived as a high-value-added, premium offering that is not readily available elsewhere nor easily replicated.

You must have heard of Netflix, Amazon Prime, YouTube Premium, etc who will let you enjoy their unlimited services. These eCommerce business models charge their users or rather subscribers based on a certain interval of time (daily, monthly or annual) to avail their services.

The service offerings of these companies generally include music, videos, TV channels, magazines, special services, etc. which is offered to the subscribers for a price to watch/listen or get the latest edition.

**Premium membership:** Many social media and business platforms like Xing, LinkedIn, stayfriends, etc. offers subscriptions to avail of additional services that get the subscribers to access to daily updates, newsletters, short notices, etc. These information and quick updates are delivered to them directly to their account.

**Internet service providers:** We all are familiar with the monthly and annual subscription of internet service providers or rather a broadband connection enabling the subscribers to enjoy unlimited internet service.

**Publishers and content services:** You are well acquainted with Netflix, New York Times, Spiegel Online, etc. These eCommerce business models ask for subscription fees based on monthly or annually to get access to their content.

Similarly other examples are...

eHarmony (dating services), Ancestry (genealogy research), Microsoft's Xbox Live (video games), Pandora, Spotify, and Rhapsody (music), Scribd, and Amazon's Kindle Unlimited program (e-books), and Netflix and Hulu (television and movies).

Example: table below shows the various subscription services.

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NAME	DESCRIPTION
eHarmony.co.uk (dating)	<ul style="list-style-type: none"> <li>• Free: Create profile and view profiles of matches</li> <li>• Basic (see photos, send and receive messages): £44.95 for 1 month; £65.85 for 3 months; £113.7 for 6 months; £119.4 for 12 months</li> <li>• Total Connect (Basic plus additional services such as identification validation): £44.95 for 1 month; £68.85 for 3 months; £119.7 for 6 months; £155.4 for 12 months</li> </ul>
Ancestry.co.uk (genealogical research)	<ul style="list-style-type: none"> <li>• U.K. census, birth, marriage, and death records: £10.99 for 1 month; £95.99 for 12 months</li> <li>• Unlimited access to entire library: £19.99 for 1 month; £179.99 for 12 months</li> <li>• Pay as you go: 12 record views for 14 days, £9.99</li> </ul>
Kindle Unlimited UK	<ul style="list-style-type: none"> <li>• Unlimited books for £7.99/month (over 1 million books from which to choose)</li> </ul>
Spotify (music)	<ul style="list-style-type: none"> <li>• Many different permutations, depending on device (mobile, tablet, or desktop) and plan chosen (Free, Unlimited or Premium)</li> </ul>

Recently, a number of companies have been combining a subscription revenue model with a freemium strategy. In a freemium strategy, the companies give away a certain level of product or services for free, but then charge a subscription fee for premium levels of the product or service.

### **3.Transaction Fee revenue model**

In the **transaction fee revenue model**, a company receives a fee for enabling or executing a transaction. For example, eBay provides an auction marketplace and receives a small transaction fee from a seller if the seller is successful in selling the item. E-Trade, a financial services provider, receives transaction fees each time it executes a stock transaction on behalf of a customer.

### **4.Sales revenue model**

In the **sales revenue model**, companies derive revenue by selling goods, content, or services to customers. Companies such as Amazon, L.L. Bean, and Gap all have sales revenue models. A number of companies are also using a subscription-based sales revenue model.

The eCommerce business charges a fee to a seller for every transaction made through them. They are the payment companies that provide the payment gateway service to other eCommerce business platforms. Generally, the profit is derived through enabling or executing transactions.

let's take the example of PayPal. The company charges a transaction fee to the sellers of the product once the transaction is completed. Similarly, eTrade gains a transaction fee whenever a stock transaction is made with a customer. The amount to be paid to the operator

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is either decided upon based on a percentage or a fixed amount with the vendor. Amazon is another example of a transaction fee revenue business model.

#### **5. Affiliate revenue model**

It deals with a business that follows the principle of commission. Merchants and vendors partner up with well-known eCommerce platforms to advertise and sell their products giving them a percentage of the profit as a commission.

The process of an affiliate marketing basically works as a link that is hyperlinked to the affiliate and is archived on a host platform that gets regular traffic. Any user who clicks to the affiliate link is redirected to their website where the product or service is catalogued. The affiliate or the merchant thus pays an agreed commission to the host operator who's carrying the link for every traffic driven.

Amazon and affiliate are well-known examples that let you affiliate your product links and drive traffic. For each lead driven to your website, you need to pay a certain percentage to Amazon or affilinet as their commission.

Interestingly, this brings a win-win situation for both the merchant, who sells his product and the affiliate who advertised or marketed their product. Such an eCommerce business model utilizes different variations such as pay-per-click, banner exchange and also, revenue sharing programs that aim at driving the audience from one platform to another.

Other example, MyPoints makes money by connecting companies with potential customers by offering special deals to its members. When they take advantage of an offer and make a purchase, members earn "points" they can redeem for freebies, and MyPoints receives a fee. Community feedback companies typically receive some of their revenue from steering potential customers to Web sites where they make a purchase.

#### **B2C Business Models:**

A business-to-consumer (B2C) business model is one in which a company sells a service or product directly to a consumer. These businesses produce an end product that is appropriately priced and then marketed to the general public.

Familiar examples of B2C companies include Amazon, Walmart, and other companies where individual customers are the end-users of a product or service.

#### **E-tailer**

An e-tailer is a retailer that sells products and services to customers using an online store or it is simply a retailers who use the internet to sell their goods/services to their customers, rather than actual stores. E-tailers do not need to own or rent physical shops, although some choose to do so.

A producer distributes a product to an e-tailer, which then offers it for sale to its customers on its website. Customers visit the e-tailer's website in order to purchase the product,

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and the product is delivered to the customer. Examples of e-tailers include Alibaba and Amazon. They have a number of advantages and disadvantages compared to retailers.

There are two types of e-tailers, one category whereby e-commerce is the only operation undertaken by the company; examples of such organisations include E-Bay, Amazon, and Dell. The other type includes e-commerce as part of their overall marketing strategy, whilst still having a physical, bricks and mortar, store, whereby customers can still go in and purchase the good/service. Examples of this type of e-tailer are Dixons, Tesco and WH Smith.

e-tailers have a number of advantages and disadvantages compared to retailers.

#### **Advantages of e-tailers:**

- they can offer a wide range of products as they are not limited by the size of a shop
- they may allow small producers to sell through their website for a fee
- their prices are often lower, as they do not have to pay for a physical shop
- customers can shop whenever and wherever they want, as e-tailers are open 24 hours a day, 7 days a week

#### **Disadvantages of e-tailers:**

- customers need to have internet access
- customers cannot pay by cash
- goods need to be delivered, so customers must be willing to wait
- items cannot be seen in person before purchasing them

#### **Community Provider**

Although community providers are not a new phenomenon, the Internet has made such sites for like-minded individuals to meet and converse much easier, without the limitations of geography and time to hinder participation. Community providers create an online environment where people with similar interests can transact, share interests, photos, videos; communicate with like-minded people; receive interest-related information; and even play out fantasies by adopting online personalities called avatars. The social network sites Facebook, LinkedIn, Twitter, and Pinterest, and hundreds of other smaller, niche sites all offer users community-building tools and services.

The basic value proposition of community providers is to create a fast, convenient, one-stop site where users can focus on their most important concerns and interests, share the experience with friends, and learn more about their own interests.

Community providers typically rely on a hybrid revenue model that includes subscription fees, sales revenues, transaction fees, affiliate fees, and advertising fees from other firms that are attracted by a tightly focused audience.

Community providers make money from advertising and through affiliate relationships with retailers. Some of the oldest online communities are **The Well**, which provides a forum for technology and Internet-related discussions, and **The Motley Fool**, which provides financial advice, news, and opinions. The Well offers various membership plans ranging from \$10 to

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\$15 a month. Motley Fool supports itself through ads and selling products that start out “free” but turn into annual subscriptions.

Community is, arguably, the fastest growing online activity. While many community sites have had a difficult time becoming profitable, many have succeeded over time, with advertising as their main source of revenue. Both the very large social network sites such as Facebook, Twitter, and LinkedIn, as well as niche sites with smaller dedicated audiences, are deal marketing and advertising territories.

Traditional online communities such as The Motley Fool and WebMD (which provides medical information to members) find that breadth and depth of knowledge at a site is an important factor. Community members frequently request knowledge, guidance, and advice. Lack of experienced personnel can severely hamper the growth of a community, which needs facilitators and managers to keep discussions on course and relevant. For the newer community social network sites, the most important ingredients of success appear to be ease and flexibility of use, and a strong customer value proposition.

### **Content Provider**

Content providers distribute information content, such as digital video, music, photos, text, and artwork. Content providers can make money via a variety of different revenue models, including advertising, subscription fees, and sales of digital goods. For instance, in the case of Rhapsody, a monthly subscription fee provides users with access to thousands of music tracks. Other content providers, such as the Wall Street Journal online newspaper, Harvard Business Review, and many others, charge customers for content downloads in addition to, or in place of, a subscription fee.

Of course, not all online content providers charge for their information: just look at the Web sites for CBS Sports, CIO, CNN, and the online versions of many newspapers and magazines. Users can access news and information at these sites without paying a cent, although sometimes they may be required to register as a member. These popular sites make money in other ways, such as through advertising and partner promotions on the site. Increasingly, however, “free content” may be limited to headlines and text, whereas premium content—in-depth articles or videos—is sold for a fee.

Generally, the key to becoming a successful content provider is owning the content. Traditional owners of copyrighted content—publishers of books and newspapers, broadcasters of radio and television content, music publishers, and movie studios—have powerful advantages over newcomers who simply offer distribution channels and must pay for content, often at very high prices.

Some content providers, however, do not own content, but syndicate (aggregate) and then distribute content produced by others. Syndication is a major variation of the standard content provider model. Aggregators, who collect information from a wide variety of sources and then add value to that information through post-aggregation services, are another variation.

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For instance, Shopzilla collects information on the prices of thousands of goods online, analyzes the information, and presents users with tables showing the range of prices and links to the sites where the products can be purchased. Shopzilla adds value to content it aggregates, and resells this value to advertisers who advertise on its site.

#### **Portal**

Portals such as Yahoo, MSN, and AOL offer users powerful search tools as well as an integrated package of content and services, such as news, e-mail, instant messaging, calendars, shopping, music downloads, video streaming, and more, all in one place. Initially, portals sought to be viewed as “gateways” to the Internet. Today, however, the portal business model is to be a destination site. They are marketed as places where consumers will hopefully stay a long time to read news, find entertainment, and meet other people. Portals do not sell anything directly—or so it seems—and in that sense they can present themselves as unbiased. Portals generate revenue primarily by charging advertisers for ad placement, collecting referral fees for steering customers to other sites, and charging for premium services.

Although there are numerous portal/search engine sites, the top five sites (Google, Microsoft (Bing), Yahoo, Ask, and AOL) in the United States gather more than 95% of U.S. search engine traffic because of their superior brand recognition (comScore, 2015).

Many of the top sites were among the first to appear on the Web and therefore had first-mover advantages. Being first confers advantage because customers come to trust a reliable provider and experience switching costs if they change to late arrivals in the market. By garnering a large chunk of the marketplace, first movers—just like a single telephone network—can offer customers access to commonly shared ideas, standards, and experiences.

The traditional portals have company: Facebook and other social network sites are now the initial start or home page (portal) for millions of Internet users.

#### **Transaction Broker**

Companies that process transactions for consumers normally handled in person, by phone, or by mail are transaction brokers. The largest industries using this model are financial services, travel services, and job placement services. The online transaction broker’s primary value propositions are savings of money and time. In addition, most transaction brokers provide timely information and opinions. Companies such as Monster offer job searchers a national marketplace for their talents and employers a national resource for that talent. Both employers and job seekers are attracted by the convenience and currency of information. Online stock brokers charge commissions that are considerably less than traditional brokers, with many offerings’ substantial deals, such as cash and a certain number of free trades, to lure new customers.

Given rising consumer interest in financial planning and the stock market, the market opportunity for online transaction brokers appears to be large. However, while millions of customers have shifted to online brokers, some are still wary about switching from their traditional broker who provides personal advice and a brand name. Fears of privacy invasion and the loss of control over personal financial information also contribute to market resistance.

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Consequently, the challenge for online brokers is to overcome consumer fears by emphasizing the security and privacy measures in place, and, like physical banks and brokerage firms, providing a broad range of financial services and not just stock trading.

Transaction brokers make money each time a transaction occurs. Each stock trade, for example, nets the company a fee, based on either a flat rate or a sliding scale related to the size of the transaction. Attracting new customers and encouraging them to trade frequently are the keys to generating more revenue for these companies. Travel sites generate commissions from travel books and job sites generate listing fees from employers up front, rather than charging a fee when a position is filled.

### **Market Creator**

Market creators build a digital environment in which buyers and sellers can meet, display and search for products and services, and establish prices. Prior to the Internet and the Web, market creators relied on physical places to establish a market. Beginning with the medieval marketplace and extending to today's New York Stock Exchange, a market has meant a physical space for transacting business.

The Web changed this by making it possible to separate markets from physical space. For example, **Priceline**, which allows consumers to set the price they are willing to pay for various travel accommodations and other products, and **eBay**, the online auction site utilized by both businesses and consumers. Market creators make money by either charging a percentage of every transaction made, or charging merchants for access to the market.

For example, eBay's auction business model is to create a digital environment for buyers and sellers to meet, agree on a price, and transact. This is different from transaction brokers who actually carry out the transaction for their customers, acting as agents in larger markets. At eBay, the buyers and sellers are their own agents. Each sale on eBay nets the company a commission based on the percentage of the item's sales price, in addition to a listing fee. eBay is one of the few e-commerce companies that has been profitable virtually from the beginning. Why? One answer is that eBay has no inventory or production costs. It is simply a middleman.

Uber, Airbnb, and Lyft are another example of the market creator business model (although they could also be categorized as service providers). On-demand service companies (also sometimes called sharing economy companies) are market creators that have developed online platforms that allow people to sell services, such as transportation or spare rooms, in a marketplace that operates in the cloud and relies on the Web or smartphone apps to conduct transactions.



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### **E-Commerce**

#### **Service Provider**

While e-tailers sell products online, service providers offer services online. There's been an explosion in online services that is often unrecognized. Photo sharing, video sharing, and user-generated content (in blogs and social network sites) are all services provided to customers. Google has led the way in developing online applications such as Google Maps, Google Docs, and Gmail. Other personal services such as online medical bill management, financial and pension planning, and travel recommendation are showing strong growth.

Service providers use a variety of revenue models. Some charge a fee, or monthly subscriptions, while others generate revenue from other sources, such as through advertising and by collecting personal information that is useful in direct marketing. Many service providers employ a freemium revenue model, in which some basic services are free, but others require the payment of additional charges. Much like retailers who trade products for cash, service providers trade knowledge, expertise, and capabilities for revenue.

Obviously, some services cannot be provided online. For example, dentistry, plumbing, and car repair cannot be completed via the Internet. However, online arrangements can be made for these services. Online service providers may offer computer services, such as data storage (Dropbox and Carbonite), provide legal services (RocketLawyer), or accounting or bookkeeping services (Wave, Bench). Grocery shopping sites such as FreshDirect and Peapod are also providing services.

To complicate matters a bit, most financial transaction brokers (described previously) provide services such as college tuition and pension planning. Travel brokers also provide vacation-planning services, not just transactions with airlines and hotels. Indeed, mixing services with your products is a powerful business strategy pursued by many hard-goods companies (for example, warranties are services).

The basic value proposition of service providers is that they offer consumers valuable, convenient, time-saving, and low-cost alternatives to traditional service providers or provide services that are truly unique. Where else can you search billions of Web pages, or share photos with as many people instantly? Research has found, for instance, that a major factor in predicting online buying behavior is time starvation. Time-starved people tend to be busy professionals who work long hours and simply do not have the time to pick up packages, buy groceries, send photos, or visit with financial planners.

The market opportunity for service providers is as large as the variety of services that can be provided and potentially is much larger than the market opportunity for physical goods. We live in a service-based economy and society; witness the growth of fast-food restaurants, package delivery services, and wireless cellular phone services. Consumers' increasing demand for convenience products and services bodes well for current and future online service providers.

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### E-Commerce

#### B2B Business Models:

A B2B Business Model is a business that sells, rents, or leases its product to another business. They are also called “Business-to-Business” models. They are used by companies to increase revenue, gain market share, and enhance their brand.

The business-to-business (B2B) e-commerce, in which businesses sell to other businesses, is more than 10 times the size of B2C e-commerce, even though most of the public attention has focused on B2C. Table below lists the **Net market places in the B2B arena**.

BUSINESS MODEL	EXAMPLES	DESCRIPTION	REVENUE MODEL
<i>(1) NET MARKETPLACE</i>			
E-distributor	Grainger Amazon Business	Single-firm online version of retail and wholesale store; supply maintenance, repair, operation goods; indirect inputs	Sales of goods
E-procurement	Ariba Supplier Network PerfectCommerce	Single firm creating digital markets where sellers and buyers transact for indirect inputs	Fees for market-making services, supply chain management, and fulfillment services
Exchange	Go2Paper	Independently owned vertical digital marketplace for direct inputs	Fees and commissions on transactions
Industry Consortium	TheSeam SupplyOn	Industry-owned vertical digital market open to select suppliers	Fees and commissions on transactions

TABLE: B2B BUSINESS MODELS

#### E-DISTRIBUTOR

Companies that supply products and services directly to individual businesses are e-distributors. For example, W.W. Grainger (Founder: William Wallace Grainger) is the largest distributor of maintenance, repair, and operations supplies. In the past, Grainger relied on catalog sales and physical distribution centres in metropolitan areas. Its catalog of equipment went online in 1995. The company now serves more than 3 million customers worldwide with offerings such as **motors, lighting, material handling, fasteners, plumbing, tools, and safety supplies, along with inventory management services and technical support**. Today, Grainger’s e-commerce platform, which includes Web sites and mobile apps, produces about \$2.8 billion in sales (about 30% of its total revenue) for the company.

E-distributors are owned by one company seeking to serve many customers. With e-distributors, the more products and services a company makes available on its site, the more attractive that site is to potential customers. One-stop shopping is always preferable to having to visit numerous sites to locate a particular part or product.

#### E-procurement

Just as e-distributors provide products to other companies, e-procurement firms create and sell access to digital markets. Firms such as Ariba, for instance, have created software that helps large firms organize their procurement process by creating mini-digital markets for a single firm. Ariba creates custom-integrated online catalogs (where supplier firms can list their offerings) for purchasing firms. On the sell side, Ariba helps vendors sell to large purchasers by providing software to handle catalog creation, shipping, insurance, and finance. Both the buy and sell side software is referred to generically as “value chain management” software.

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B2B service providers make money through transaction fees, fees based on the number of workstations using the service, or annual licensing fees. They offer purchasing firms a sophisticated set of sourcing and supply chain management tools that permit firms to reduce supply chain costs. In the software world, firms such as Ariba are sometimes also called Software as a Service (SaaS) or Platform as a Service (PaaS) providers; they are able to offer firms much lower costs of software by achieving scale economies. Scale economies are efficiencies that result from increasing the size of a business, for instance, when large, fixed-cost production systems (such as factories or software systems) can be operated at full capacity with no idle time.

#### **EXCHANGES**

An exchange is an independent digital marketplace where hundreds of suppliers meet a smaller number of very large commercial purchasers. Exchanges are owned by independent, usually entrepreneurial start-up firms whose business is making a market, and they generate revenue by charging a commission or fee based on the size of the transactions conducted among trading parties.

They usually serve a single vertical industry such as steel, polymers, or aluminium, and focus on the exchange of direct inputs to production and short-term contracts or spot purchasing.

For buyers, B2B exchanges make it possible to gather information, check out suppliers, collect prices, and keep up to date on the latest happenings all in one place. Sellers, on the other hand, benefit from expanded access to buyers. The greater the number of sellers and buyers, the lower the sales cost and the higher the chances of making a sale.

In theory, exchanges make it significantly less expensive and time-consuming to identify potential suppliers, customers, and partners, and to do business with each other. As a result, they can lower transaction costs—the cost of making a sale or purchase.

Exchanges can also lower product costs and inventory-carrying costs—the cost of keeping a product on hand in a warehouse. In reality, B2B exchanges have had a difficult time convincing thousands of suppliers to move into singular digital markets where they face powerful price competition, and an equally difficult time convincing businesses to change their purchasing behaviour away from trusted long-term trading partners. As a result, the number of exchanges has fallen significantly.

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#### **Industry Consortia**

A consortium is a group made up of two or more individuals, companies, or governments that work together to achieving a common objective.

An industry consortium refers to a vertical market developed, maintained, and run by a specific industry. The consortium is formed when companies within an industry decide to work together to address significant issues within the industry. It could be that the industry has significantly high costs or risks associated with it. When the companies work together, they can share the costs and dangers, thus ensuring that they can realize sustainability.

So, industry consortia are industry-owned vertical marketplaces that serve specific industries, such as the automobile, aerospace, chemical, floral, or logging industries. Vertical marketplaces supply a smaller number of companies with products and services of specific interest to their industry, while horizontal marketplaces supply companies in different industries with a particular type of product and service, such as marketing-related, financial, or computing services. In contrast, horizontal marketplaces sell specific products and services to a wide range of companies.

#### **Objective of Industrial consortia:**

- Develop stable relationships within the industry.
- Establish long-term contractual purchasing.
- Create industry-wide standards through common data definitions, network standards and computing platforms.
- Synchronize developments between interested parties.
- Unify all supply chains within the industry, across tiers of companies and their divisions.
- Regulate themselves, returning profits to the industry as a whole.

For example, SupplyOn, founded in 2000 and owned by industrial giants Bosch (one of the world's largest suppliers of automotive components), Continental (a leading automotive manufacturing company), and Schaeffler (a global manufacturer of various types of bearings), among others, provides a shared supply chain collaboration platform for companies in various manufacturing industries.

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#### **PRIVATE INDUSTRIAL NETWORKS**

- A private industrial network sometimes referred to as a private trading exchange or PTX is a digital network **designed to coordinate the flow of communications among firms engaged in business together.**
- Such systems are also called collaborative, as they facilitate efficiencies throughout the network.
- The network is owned by a single large purchasing firm. Participation is by invitation only to trusted long-term suppliers of direct inputs.
- These networks typically evolve out of a firm's own enterprise resource planning (ERP) system, and are an effort to include key suppliers in the firm's own business decision making.
- For instance, Walmart operates one of the largest private industrial networks in the world for its suppliers, who on a daily basis use Walmart's network to monitor the sales of their goods, the status of shipments, and the actual inventory level of their goods.
- Other many large companies like Coca-Cola, Nike, Hewlett-Packard, IBM, Microsoft, Cisco Systems, Dell and General Electric operate private industrial networks, which indeed form the largest part of B2B ecommerce today.

**Note:** - Unlike industrial consortia, which are collectively owned by several major companies, whereas, private industrial networks generally have a single, sponsoring company that sets and enforces the rules, only inviting other companies to participate at its own discretion.

#### **Objective of private industrial network**

- More efficient buying and selling throughout an industry.
- Resource planning on an enterprise- and industry-wide scale.
- Increased supply chain visibility to all interested parties, i.e., inventory levels of buyers and suppliers can be monitored and kept to efficient levels.
- Closer relationships between buyers and suppliers, improving demand forecasting, communications and conflict resolution.
- Transglobal operations.
- Risk reduction, with financial derivatives, insurance and a futures market employed to prevent supply and demand imbalances.

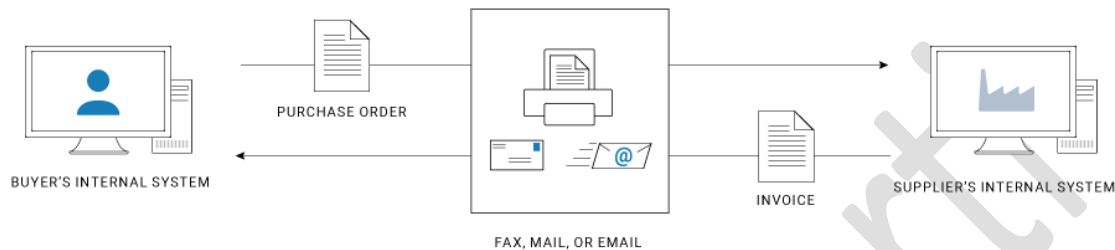
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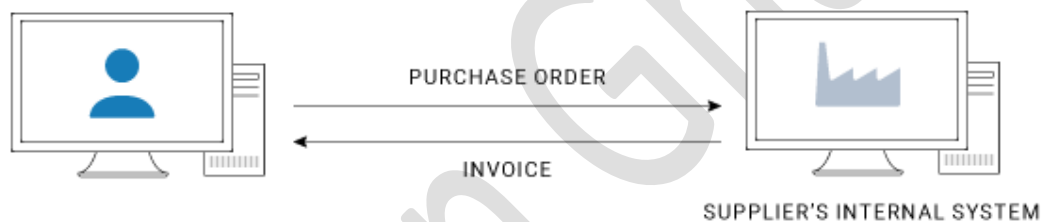
#### Electronic Data Interchange (EDI)

Electronic Data Interchange (EDI) describes the exchange of documents between organisations in standardised electronic form directly between computer applications. It is the intercompany communication of business documents in a standard format or is the electronic interchange of business information using a standardized format; a process which allows one company to send information to another company electronically rather than with paper.

#### Traditional Manual Process



#### Automated EDI Process



It replaces paper-based documents such as purchase orders or invoices. by automating paper-based transactions, organizations can save time and eliminate costly errors caused by manual processing. Purchase orders, invoices and material releases are just some examples of these processes where EDI can result in cost savings and increased efficiency.

In EDI transactions, information moves directly from a computer application in one organization to a computer application in another organization. The standard of EDI defines the location and order of information in a document format. With this automated capability, data can be shared rapidly instead of over the hours, days or weeks required when using paper documents or other methods.

Today, industries use EDI integration to share a range of document types — from purchase orders to invoices to requests for quotations to loan applications and more. In most instances, these organizations are trading partners that exchange goods and services frequently as part of their supply chains and business-to-business (B2B) networks.

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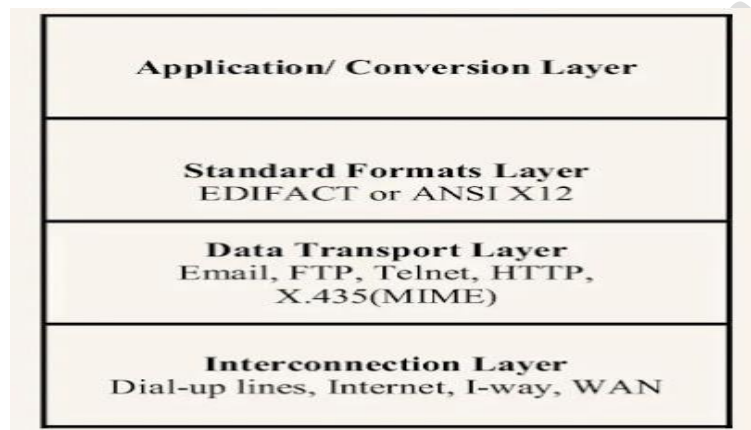
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#### **EDI Layered Architecture**

Electronic data interchange architecture specifies four different layers namely

- Application/Conversion layer
- Standard Format layer
- Data Transport layer
- Interconnection layer

These EDI layers are described in Figure below...



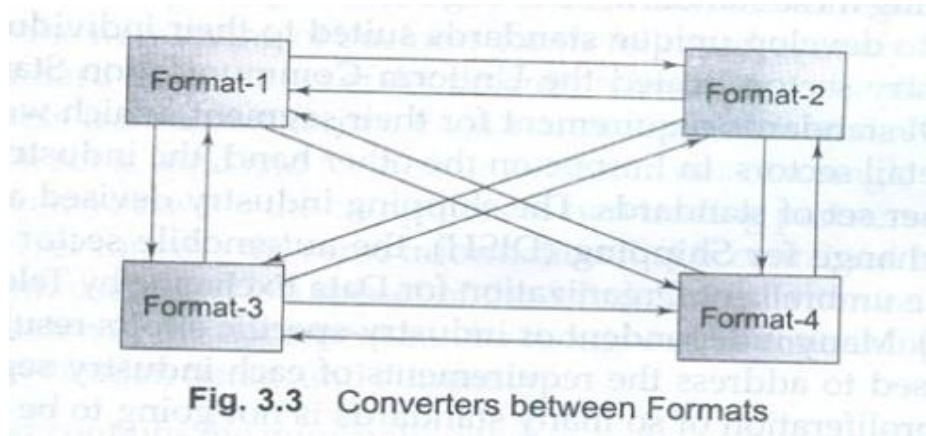
#### **1) Application Layer**

1. It consists of the actual business applications that are going to be connected through the EDI systems for the exchange of electronic information.
2. These applications may use their own electronic record formats and document formats for storing, retrieving, and processing the information within the company systems.
3. Since each company's system may have its own proprietary format, which would be used by their system(s), for EDI to operate, they need to convert the internal company document format to a format that can be understood by the system by the trading partner.
4. When the trading partners are small in number, converters for various partner formats can be built. But, as the number of partners with different internal formats increases, the task of building converters for each proprietary format to other formats becomes overwhelming.
5. The figure 3.3 below shows several converters for four trading partners with four different proprietary message formats.



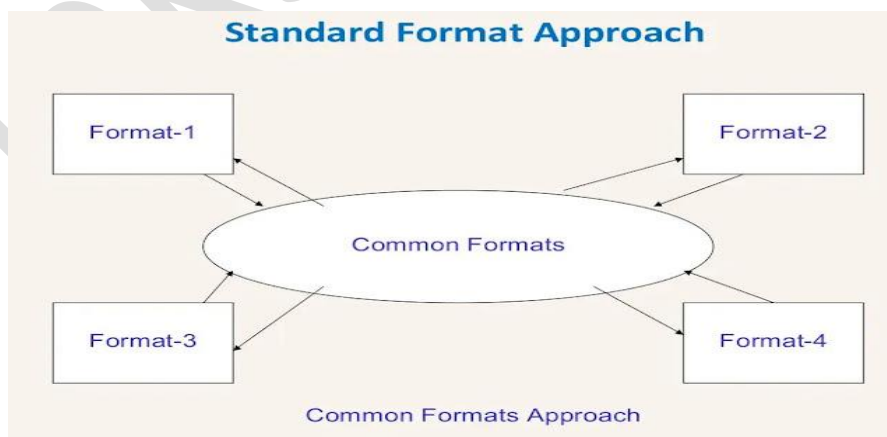
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#### 2) The Standard Formats Layer

1. The application layer of EDI systems relies on common agreed formats for operation. Thus, the second critical building block of the EDI system is standards for business documents/forms. Since the sender and receiver in the EDI systems have to exchange business documents that can be interpreted by all parties, it has necessitated the development of form standards in EDI. EDI form standards are basically data standards in that they lay down the syntax and semantics of the data being exchanged
2. The grocery industry sector created the Uniform Communication Standards (UCS) for addressing the EDI standards required for their segment, which were later adopted by several other retail sectors.
3. The shipping industry devised a set of standards called Data Interchange for Shipping (DISH); The automobile sector came up with a standard under the umbrella of Organization for Data Exchange by Tele Transmission in Europe (ODETTE).
4. Over a period of time, two major EDI standards have evolved. The first, commonly known as X12, was developed by the Accredited Standards X12 committee of the American National Standards Institute (ANSI) and the second, the international standard, was developed by the United Nations EDI for administration, Commerce and Trade (EDIFACT)



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#### a) ANSI X12

- The Accredited Standards Committee (ASC) X12 was set up by the American National Standards Institute (ANSI) in 1979 to develop cross-industry standards for exchanging electronic documents for use by all businesses in the United States. It is commonly referred to as the X12 standard.
- It describes the format for structuring the data. The types of documents that should be transmitted electronically, and the content of each document. The identification numbers for various forms, codes for a variety of fields, and types of information are also defined in the standard. The standard also defines the sequence of information flow.
- The X12 devised the standards to deal with transactions such as purchase order placement, order processing, shipping, invoicing, and payments, to name a few. In the X12 standard, paper documents related to particular business activities are mapped into a transaction set.
- Each transaction set is given a numeric code, and each transaction set is used and for defining the transfer of a single document (purchase order, manifest, etc.) between the computers of two trading partners.
- The data embedded in a transaction set conveys the same information that is contained in the printed version of the document; usually, it is a subset of the whole information on the printed version.
- The printed version of the document can be thought of as containing three distinct types of information – **header, detail, and summary**.

1. The **header** contains the information that is common to the whole document, such as date; address; to address; terms and conditions, etc. In the sample order form shown in Fig., the following information is the header:

**Xpress IT Solution    Date 24/11/04**  
**1025, Sector 10**  
**Airoli, Mumbai**  
**Purchase Order no. :**

2. **Detail** refers to line items that describe the actual business transaction. In the case of a purchase order, it may contain item number, description, quantity ordered, and price information.

3. **Summary** refers to the control information and other components that refer to the complete transaction. In the case of a purchase order, it may refer to order value.

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#### **b) EDIFACT – An International Standard**

- In 1987, the United Nations announced an international standard called EDI for Administration, Commerce, and Transport (EDIFACT). The EDIFACT standard is promoted by the United Nations Economic Commission, which is responsible for the adoption and standardization of messages.
- The International Standards Organization (ISO) has been entrusted with the responsibility of developing the syntax and data dictionary for EDIFACT. EDIFACT serves the purpose of trans-border standardization of EDI messages.
- EDIFACT combines the efforts of the American National Standards Institute's ASC X12, Trade Data Interchange (TDI) standards developed and deployed by much of Europe and the United Kingdom.
- The GE.1 group of UNEC / EDIFACT deals with data elements and rules and formats for automated data exchange. The GE.1 group also coordinates the six EDIFACT boards set up for Western Europe, Eastern Europe, Pan America, Australia/New Zealand, Asia, and Africa. The Asia EDIFACT board (AEB) consists of members like India, Japan, Korea, Hong Kong, China, Singapore, Taiwan, and Malaysia.
- The basic unit of communication among EDI Trading Partners, defined by EDIFACT, is an interchange.

#### **3.Data Transport Layer**

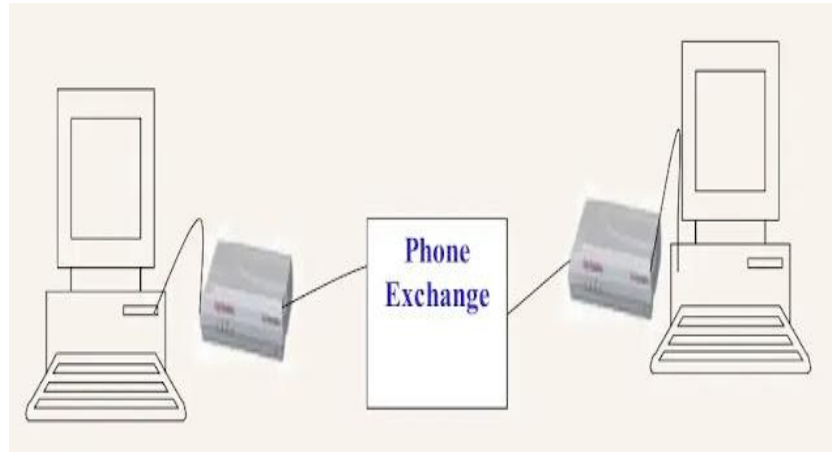
- The data transport layer consists of services that automate the task of electronic transfer of messages. In a typical purchase process, once a purchase order has been prepared and printed in the standard format, it is placed in an envelope and dispatched through postal or courier services to the supplier.
- The content and structure of the purchase order are defined in the standards layer and are separate from the transport/ carrier mechanism.
- This layer utilizes any of the available network transport services such as electronic mail; file transfer protocol; Telnet-based remote connection and transfer; or even the HyperText Transfer Protocol (HTTP) that drives the World Wide Web.
- Electronic mail is used only as a carrier for transporting the formatted EDI messages by the EDI Document Transport Layer. ITU-T has adopted X.435 (X.400-based) standards to support electronic data interchange (EDI) messaging.
- Data Transport Layer X.435 standard consists of the definition of normal EDI messages and a set of EDI "notifications" to address the security requirement.
- To achieve equivalence to the security control offered by the paper-based systems, it has three types of notifications.
  - **A positive notification** – It indicates that the recipient has received the document and accepts the responsibility for it;
  - **A negative notification-** It indicates that the recipient received but refused to accept the document. The reason for refusal is attached with the notification.
  - **A forwarding notification-** It indicates that the document was received, but forwarded to another recipient.

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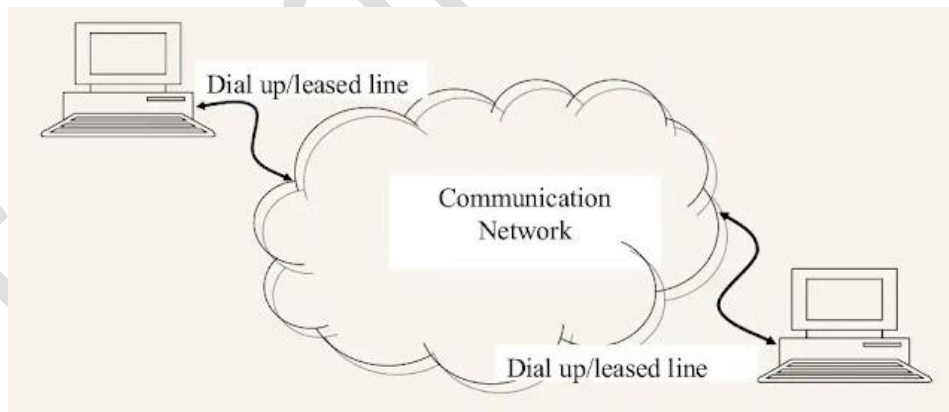
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#### 4) InterConnection Layer

- It refers to the network infrastructure that is used for the exchange of information between trading partners.
- In the simplest and most basic form, it may consist of dial-up lines, where trading partners dial up through a modem to each other and connect to exchange the messages as illustrated in figure: -



- The leased lines and I-way, Internet, or any reliable network infrastructure that can provide the ability of interconnection can be used.
- Through the interconnection, the EDI partners can achieve document exchanges between themselves as illustrated in the figure: -



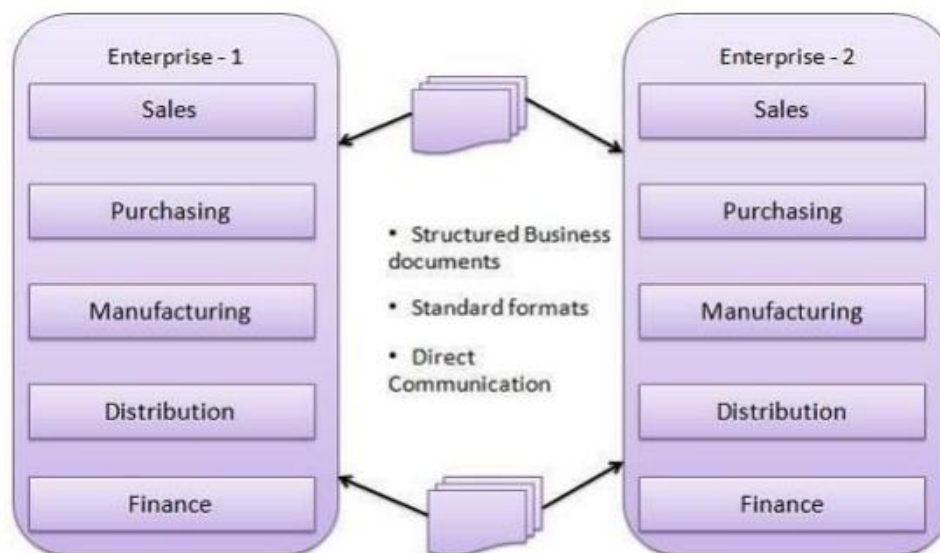
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## E-Commerce

### EDI in E-commerce

As we already defined that EDI is the exchange of business documents between any two trading partners in a standard or structured, machine-readable form. EDI is used to electronically transfer documents such as purchase orders, invoice, shipping bills, and communicate with one another. A Specified format is set by both the parties to facilitate transmission of information. Traders use Electronic Data Interchange EDI to exchange financial information in electronic form. Electronic Fund Transfer facility provided by banks is an example of Electronic Data Interchange EDI. EDI helps to eliminate paper-based system, reduces data entry task and improves business cycle.

EDI stands for Electronic Data Interchange. EDI is an electronic way of transferring business documents in an organization internally, between its various departments or externally with suppliers, customers, or any subsidiaries. In EDI, paper documents are replaced with electronic documents such as word documents, spreadsheets, etc.



### EDI Documents

Following are the few important documents used in EDI –

- Invoices
- Purchase orders
- Shipping Requests
- Acknowledgement
- Business Correspondence letters
- Financial information letters

### Steps in an EDI System

Following are the steps in an EDI System.

- A program generates a file that contains the processed document.
- The document is converted into an agreed standard format.
- The file containing the document is sent electronically on the network.

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- The trading partner receives the file.
- An acknowledgement document is generated and sent to the originating organization.

#### **Components of Electronic Data Interchange EDI**

##### **→ Standard Document Format –**

A standard format agreed upon by both parties which do not require complicated hardware or software to access information. Both parties communicate directly through a business application.

##### **→ Translator and Mapper –**

A translator is used to convert the raw data into meaningful information according to specifications provided by a mapper. A mapper is used to create conversion specification. It compiles the specification and then gives instructions to the translator on how to convert the data.

##### **→ Communication Software –**

Communication software is used to transmit data and convert business documents into a standard format. It follows a standard communication protocol which is incorporated in the software.

##### **→ Communication Network –**

A communication network provides a direct link between trading partners who are will to exchange business documents through Electronic Data Interchange EDI.

##### ➤ **Modem –**

It is a hardware device that transmits data from one computer to another.

##### ➤ **VAN –**

A value-added network (VAN) is a private, hosted service that provides companies with a secure way to send and share data with its counterparties. A network that connect the computer system of one organization to another.

##### ➤ **Point to Point link –**

A direct communication link between two computers.

#### **EDI in Ecommerce I.e., Applications of Electronic Data Interchange EDI**

##### **1.EDI in Retail industry**

In the retail sector profit margins usually depend upon efficient inventory management. EDI provides a structured way to maintain and replenish goods stocked at a retail outlet. Retailers use a common model stock for each shop location and the point-of-sale stock position is updated continuously and data is fed via EDI enabled SCM (supply chain management) network. The EDI software monitors all the logistics and makes updates in the original stock.

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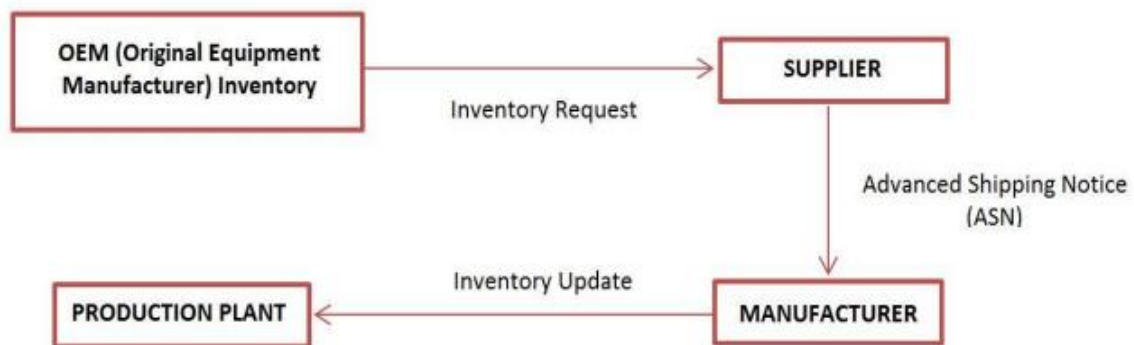
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#### EDI in RETAIL INDUSTRY

##### EDI in manufacturing Industry

EDI ensures effective and efficient management of materials required for production of a commodity. In manufacturing sector EDI facilitates Material requirement planning and just in time manufacturing. The Inventory position of OEM is constantly updated through EDI and the supplier is notified about shortage of materials. This helps the supplier to plan and schedule supply according to requirements of the manufacturer. The suppliers respond via EDI with an ASN to identify the parts/materials to be delivered and the approximate delivery time and as soon as the shipment is delivered at the production plant the inventory is updated again.



#### EDI in MANUFACTURING INDUSTRY

##### In Automobile Sector –

In automobile sector EDI is used to keep customers updated with the current product and pricing information during the purchase cycle. An advance shipping notice is transmitted through EDI to the customers to prepare a loading schedule and to ensure proper receipt of the product. The customer may also make payment on receipt of goods via EDI to speed up the payment process.

##### In Financial Sector –

In the financial sector EDI replaces the labour-intensive activities of collecting, processing and dispersing payments with an electronic system. It facilitates the flow of payment between the bank accounts of trading partners without requiring any human intervention. A payee's bank account is electronically credited and the payer's account is electronically debited on the scheduled day of payment; such an exchange is known as electronic fund transfer (EFT).



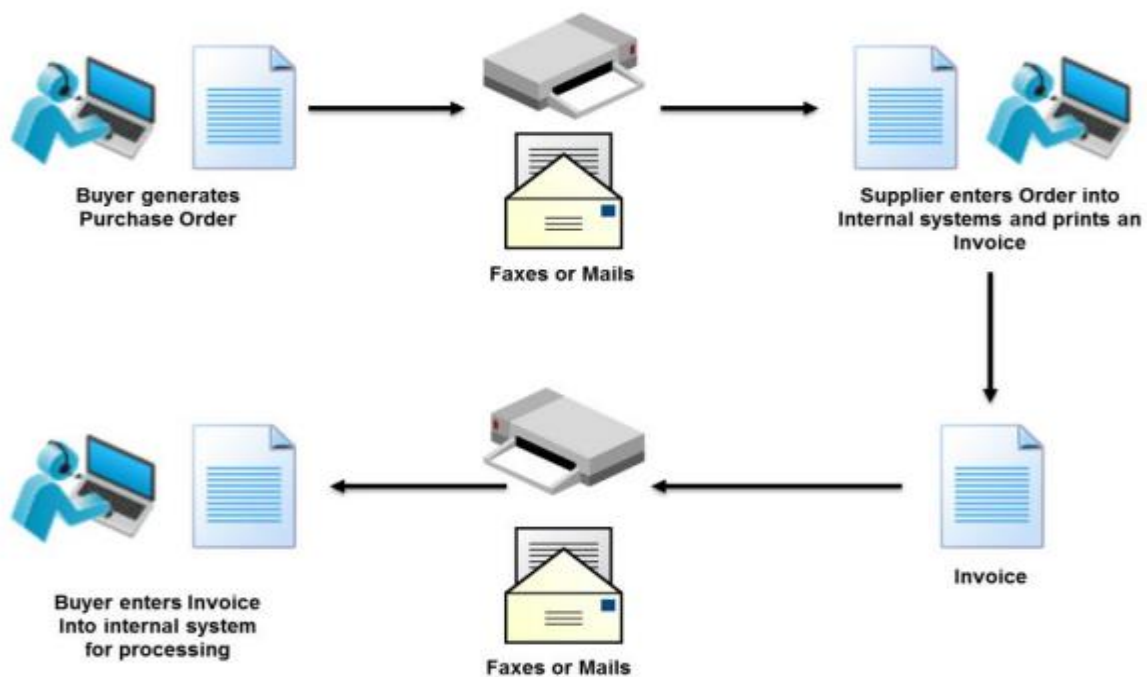
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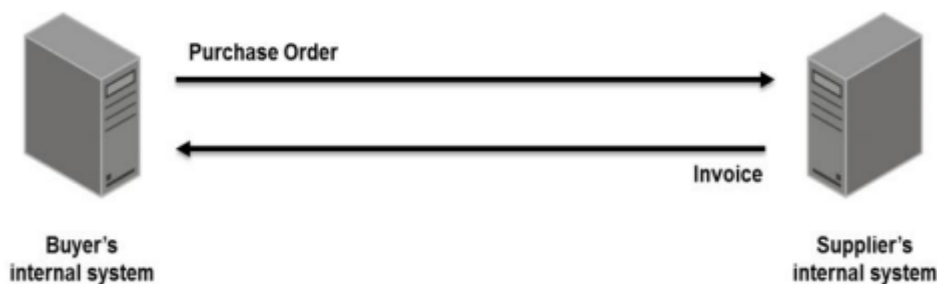
#### In Computer-to-computer–

EDI replaces postal mail, fax and email. While email is also an electronic approach, the documents exchanged via email must still be handled by people rather than computers. Having people involved slows down the processing of the documents and also introduces errors.

Instead, EDI documents can straight through to the appropriate application on the receiver's computer (e.g., the Order Management System) and processing can begin immediately. A typical manual process looks like this, with lots of paper and people involvement:



The EDI process looks like this — no paper, no people involved:



**E-commerce and Industry Value Chain**

**Industry Structure**

Industry's structure describes the general business environment in an industry and the overall profitability of doing business in that environment. It refers to the nature of the players in an industry and their relative bargaining power. An industry's structure is characterized by five forces:

1. Rivalry among existing competitors,
2. The threat of substitute products,
3. Barriers to entry into the industry,
4. The bargaining power of suppliers, and
5. The bargaining power of buyers

E-commerce changes industry structure; as it has the potential to change the relative strength of these competitive forces shown in figure below.



**Figure: How E-Commerce Influences Industry Structure**

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When you consider a business model and its potential long-term profitability, you should always perform an industry structural analysis. An industry structural analysis is an effort to understand and describe the nature of competition in an industry, the nature of substitute products, the barriers to entry, and the relative strength of consumers and suppliers.

E-commerce can affect the structure and dynamics of industries in very different ways. In the travel industry, entirely new middlemen such as Travelocity entered the market to compete with traditional travel agents. After Travelocity, Expedia, CheapTickets, and other travel services demonstrated the power of e-commerce marketing for airline tickets, the actual owners of the airline seats—the major airlines—banded together to form their own Internet outlet for tickets, Orbitz, for direct sales to consumers (although ultimately selling the company to a private investor group). Clearly, e-commerce creates new industry dynamics that can best be described as the give and take of the marketplace, the changing fortunes of competitors.

Similarly, In the chemical and automobile industries, e-commerce is being used effectively by manufacturers to strengthen their traditional distributors. In these industries, e-commerce technology has not fundamentally altered the competitive forces—bargaining power of suppliers, barriers to entry, bargaining power of buyers, threat of substitutes, or rivalry among competitors—within the industry. Hence, each industry is different and you need to examine each one carefully to understand the impacts of e-commerce on competition and strategy.

Inter-firm rivalry (competition) is one area of the business environment where e-commerce technologies have had an impact on most industries. In general, e-commerce has increased price competition in nearly all markets. It has been relatively easy for existing firms to adopt e-commerce technology and attempt to use it to achieve competitive advantage vis-à-vis rivals.

For instance, e-commerce inherently changes the scope of competition from local and regional to national and global. Because consumers have access to global price information, e-commerce produces pressures on firms to compete by lowering prices (and lowering profits). On the other hand, e-commerce has made it possible for some firms to differentiate their products or services from others. Amazon patented one-click purchasing, for instance, while eBay created a unique, easy-to-use interface and a differentiating brand name. Therefore, although e-commerce has increased emphasis on price competition, it has also enabled businesses to create new strategies for differentiation and branding so that they can retain higher prices.

# BSc CsIt SEM - VI

## E-Commerce

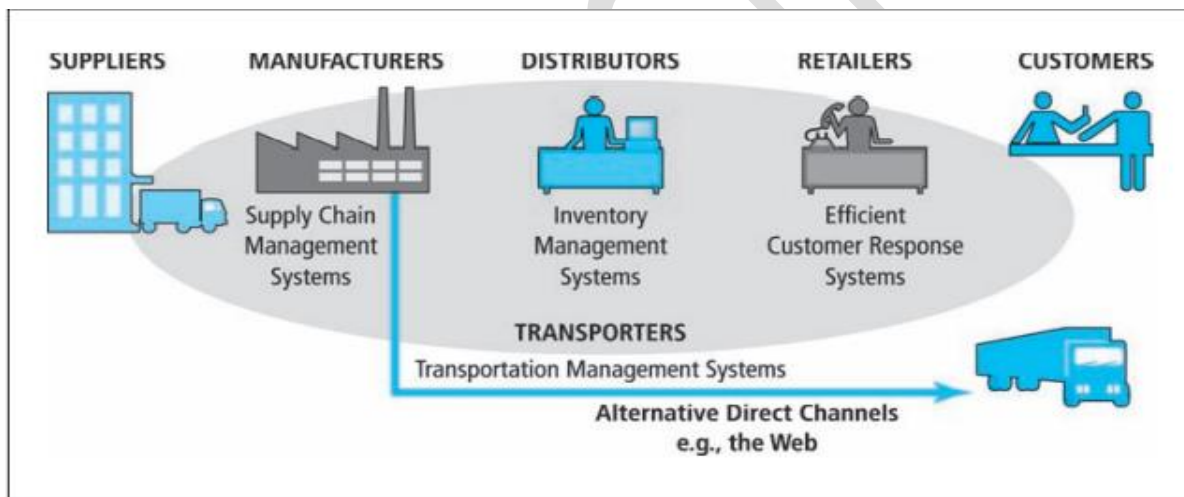
### INDUSTRY VALUE CHAINS

One of the basic tools for understanding the impact of information technology on industry and firm operations is the industry value chain.

While an industry structural analysis helps you understand the impact of e-commerce technology on the overall business environment in an industry, a more detailed industry value chain analysis can help identify more precisely just how e-commerce may change business operations at the industry level.

A value chain is the set of activities performed in an industry or in a firm that transforms raw inputs into final products and services. Each of these activities adds economic value to the final product; hence, the term value chain as an interconnected set of value-adding activities. Figure below illustrates the six generic players in an industry value chain:

1. Suppliers,
2. Manufacturers,
3. Transporters,
4. Distributors,
5. Retailers, And
6. Customers.



**Figure: E-Commerce and Industry Value Chains**

By reducing the cost of information, e-commerce offers each of the key players in an industry value chain new opportunities to maximize their positions by lowering costs and/or raising prices. For instance, manufacturers can reduce the costs they pay for goods by developing Internet-based B2B exchanges with their suppliers. Manufacturers can develop direct relationships with their customers, bypassing the costs of distributors and retailers. Distributors can develop highly efficient inventory management systems to reduce their costs, and retailers can develop highly efficient customer relationship management systems to strengthen their service to customers. Customers in turn can search for the best quality, fastest delivery, and lowest prices, thereby lowering their transaction costs and reducing prices they pay for final goods. Finally, the operational efficiency of the entire industry can increase, lowering prices and adding value for consumers, and helping the industry to compete with alternative industries.

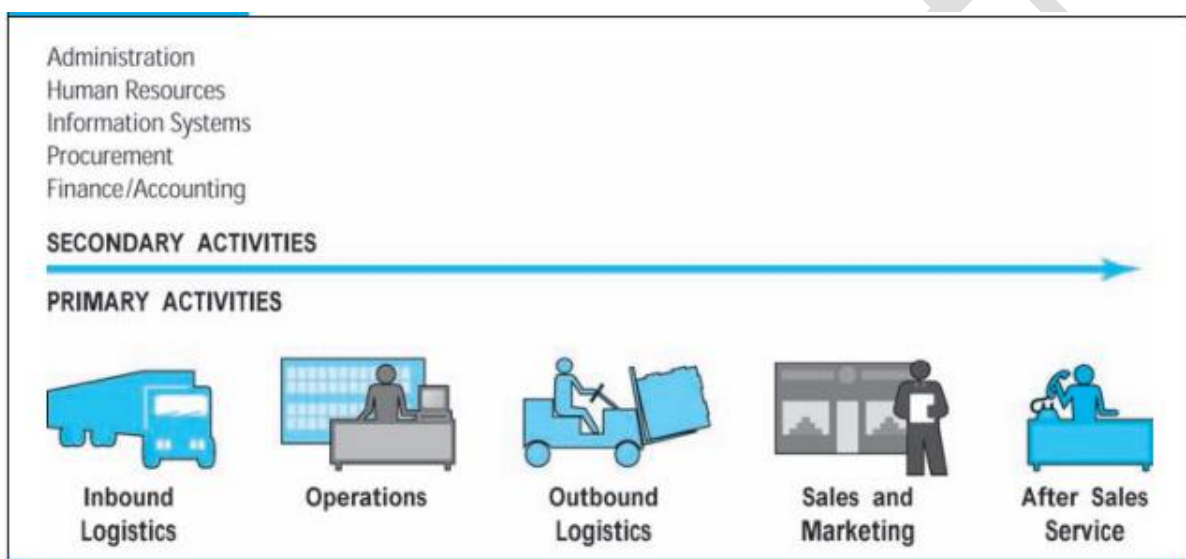
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#### FIRM VALUE CHAINS

The concept of value chain can be used to analyse a single firm's operational efficiency as well. The question here is: How does e-commerce technology potentially affect the value chains of firms within an industry?

A firm value chain is the set of activities a firm engages in to create final products from raw inputs. Each step in the process of production adds value to the final product. In addition, firms develop support activities that coordinate the production process and contribute to overall operational efficiency. Figure below illustrates the key steps and support activities in a firm's value chain.



**Figure: E-Commerce And Firm Value Chains**

E commerce offers firms many opportunities to increase their operational efficiency and differentiate their products. For instance, firms can use the Internet's communications efficiency to outsource some primary and secondary activities to specialized, more efficient providers without such outsourcing being visible to the consumer. In addition, firms can use e-commerce to more precisely coordinate the steps in the value chains and reduce their costs. Finally, firms can use e-commerce to provide users with more differentiated and high-value products. For instance, Amazon provides consumers with a much larger inventory of books to choose from, at a lower cost, than traditional book stores. It also provides many services—such as instantly available professional and consumer reviews, and information on buying patterns of other consumers—that traditional bookstore cannot.

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#### FIRM VALUE WEBS

While firms produce value through their value chains, they also rely on the value chains of their partners—their suppliers, distributors, and delivery firms. E-commerce creates new opportunities for firms to cooperate and create a value web. A value web is a networked business ecosystem that uses e-commerce technology to coordinate the value chains of business partners within an industry, or at the first level, to coordinate the value chains of a group of firms. Figure below illustrates a value web.

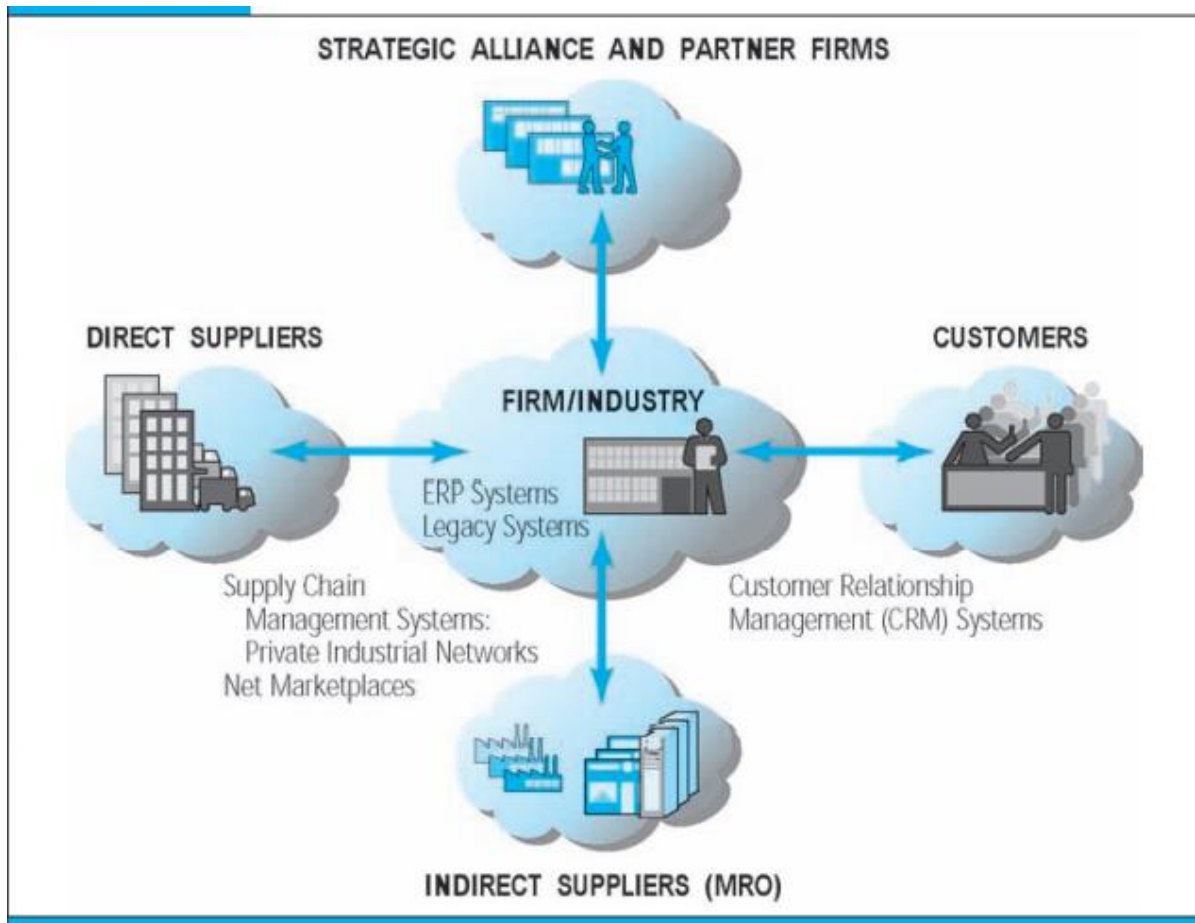


Figure : Internet-Enabled Value Web

A value web coordinates a firm's suppliers with its own production needs using an Internet-based supply chain management system. Firms also use the Internet to develop close relationships with their logistics partners. For instance, Amazon relies on UPS tracking systems to provide its customers with online package tracking, and it relies on the U.S. Postal Service systems to insert packages directly into the mail stream. Amazon has partnership relations with hundreds of firms to generate customers and to manage relationships with customers. In fact, when you examine Amazon closely, you realize that the value it delivers to customers is in large part the result of coordination with other firms and not simply the result of activities internal to Amazon. The value of Amazon is, in large part, the value delivered by its value web partners. This is difficult for other firms to imitate in the short run.



## **BSc CsIt SEM - VI**

### **E-Commerce**

#### **Case Studies of Global and Local E-commerce Systems**

(For student)

===== End of Unit-2 =====

#### **Unit 2: E-commerce Business Model (8 Hrs.)**

E-commerce Business Model, Elements of Business Model, Types of Revenue Models, B2C Business Models: E-tailer, Community Provider, Content Provider, Portal, Transaction Broker, Market Creator, Service Provider, B2B Business Models: Net Market Places (Edistributor, E-procurement, Exchanges, Industry Consortia), Private Industrial Networks (Single Firm, Industry Wide), Electronic Data Interchange (EDI), EDI Layered Architecture, EDI in E-commerce, E-commerce and Industry Value Chain, Firm Value Chain, Firm Value Web, Case Studies of Global and Local E-commerce Systems

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