Unit-2

E-commerce Business Model

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 (E-distributer, 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

E-commerce Business Model:

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 goods or services and sells it to customers. If all goes well, the revenues from sales exceed the cost of operation and the company realizes profit. Other models can be more complex. Radio and television broadcasting may be the good examples.

For our understanding, e-commerce can be defined as any form of business transaction in which the parties interact electronically. E-commerce is the technological extension of traditional commerce. For instance, it could involve several trading steps, such as marketing, ordering, payment, and support for delivery. An electronic market allows the participating sellers and buyers to exchange goods and services with the aid of information technology.

Electronic markets have three major functions,

- Matching buyers and sellers.
- Facilitating commercial transactions.
- Providing legal infrastructure.

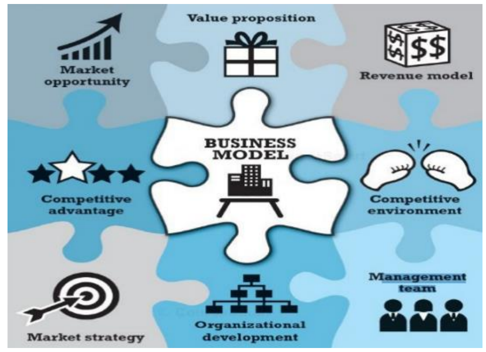
The business model is at the center of the business plan. Business plan is a detailed document explaining every detail about the business with timeline. A business plan explains about various stages about the business. It is a specific document. On the other hand, a business model explains about revenue generation and sustainability of the business.

Hence, e-commerce business model is the business model that sustains and generates revenue by doing trading over electronic devices using internet. It is a business model that aims to use and leverage the unique qualities of internet and the world wide web.

Elements of Business Model:

If You hope to develop a successful business model in any arena, not just c-commerce, you must make sure that the model effectively addresses the eight key elements of the business model:

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



Value Proposition: A company's value proposition is at the very heart of its business model. A value proposition defines how a company's product or service fulfills the needs of customers. To develop and/or analyze 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 c-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 traveled 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. Amazon's primary value propositions arc unparalleled selection and convenience.

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.

Market Opportunity: The term market opportunity refers to the company's intended marketspace and the overall potential Financial opportunities available to the firm in that marketspace. 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. There may be different types of revenue models in e-commerce, discussed in next section below.

Competitive Environment: A firm's competitive environment refers to the other companies selling similar products and operating in the same marketspace. 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.

Firms typically have both direct and indirect competitors. Direct competitors arc companies that sell products and services that are very similar and into the same market segment. Indirect competitors arc 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.com, a news outlet, is an indirect competitor of ESPN.com, 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 either signal 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.

Competitive Advantage: Firms achieve a competitive advantage when they can produce a superior product and/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 arc truly advantaged.

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 favorable terms from suppliers, shippers, or sources of labor. 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.

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.

Competitive advantages can be as follows:

- Asymmetry advantage (some have more knowledge)

- First mover advantage (first in the market)
- unfair competitive advantage (Eg brand name)
- Information advantages (existing data/information can be used to start new business)

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.

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.

Market Strategy: 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. Everything you do to promote your company's products and services to potential customers is known as marketing. 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, Facebook, 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!

Organizational Development: Although many entrepreneurial ventures arc started by one visionary individual, it is rare that one person alone can grow an idea into a multi-million dollars company. In most cases, 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 strategic. 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.

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. Typically, work is divided into functional departments, such as production, shipping, marketing, customer support, and finance. Jobs within these functional areas arc defined, and then recruitment begins for specific job titles and responsibilities. Typically, in the beginning, generalists who can perform multiple tasks arc 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.

Management Team: Arguably, the single most important clement 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 arc, 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 Model:

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:

- Advertising model
- Subscription model
- Transaction fee model
- Sales model
- Affiliate model

In the advertising revenue model, a company that offers content, services, and/or products also provides a forum for advertisements and receives fees from advertisers. Companies that are able to attract the greatest viewership or that have a highly specialized, differentiated viewership and are able to retain user attention ("stickiness") arc able to charge higher advertising rates. Google, for instance, derives a significant amount of revenue from display and video advertising.

In the subscription revenue model, a company that offers content or services charges a subscription fee for access to some or all of its offerings. 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. For example, …

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 service provider, receives transaction fees each time it executes a stock transaction on behalf of a customer. E-sewa, khalti, i-pay etc. charge for any online transactions.

In the affiliate revenue model, companies that steer business to an "affiliate" receive a referral fee or percentage of the revenue from any resulting sales. For instance, a parent might visit abc.com for tips on diapering a baby and be presented with a link to xyz.com; if the parent clicks the link and then makes a purchase from xyz.com, RightStart gets a commission.

B2C Business Models:

Business-to-consumer (B2C) e-commerce, in which online businesses seek to reach individual consumers, is the most well-known and familiar type of c-commerce. The major business B2C business models are as listed below:

- E-Tailer
- Community Provider
- Content Provider
- Portal
- Transaction Broker
- Market Creator
- Service Provider

a. **E-Tailer:** They are the online retail store. come in all sizes, from giant Amazon to tiny local stores that have Web sites. E-tailers arc similar to the typical bricks-and-mortar storefront, except that customers only have to connect to the Internet or use their smartphone to place an order. Some e-tailers, which arc referred to as "bricks-and-clicks," are subsidiaries or divisions of existing physical stores and carry the same products. Amazon, Blue Nile, and Drugstorc.com arc examples of this type of e-tailer. Several other variations of e-tailers—such as online versions of direct mail catalogs, online malls, and manufacturer-direct online sales also exist. Every Internet and smartphone user is a potential customer. Customers who feel time-starved arc even better prospects, since they want shopping solutions that will eliminate the need to drive to the mall or store.

   The e-tailer revenue model is product-based, with customers paying for the purchase of a particular item. This sector, however, is extremely competitive. Since entry barriers (the total cost of entering a new marketplace) into the e-tailer market are low, tens of thousands of small c-tail shops have sprung up. Becoming profitable and surviving is very difficult, however, for e-tailers with no prior brand name or experience. The e-tailer's challenge is differentiating its business from existing competitors.

   Companies that try to reach every online consumer are likely to deplete their resources quickly. Those that develop a niche strategy, clearly identifying their target market and its needs, arc best prepared to make a profit. Keeping expenses low, selection broad, and inventory-controlled are keys to success in c-tailing, with inventory being the most difficult to gauge.

b. **Community Provider:** Although community providers arc 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 (buy and sell goods); 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, Linkedln, 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.

   Consumers' interest in communities is mushrooming. 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 Linkedln, as well as niche sites with smaller dedicated audiences, arc ideal marketing and advertising territories. For the newer community social network sites, the most important ingredients of success appear to be case and flexibility of use, and a strong customer value proposition. For instance, Facebook leapfrogged over its rival MySpace by encouraging the development of third-party revenue-producing applications.

   It makes every user; a staff/promoter. For example, every youtuber says like, comment and subscribe.

c. **Content Provider:** Content providers distribute information content, such as digital video, music, photos, text, and artwork. Content providers make money by charging a subscription fee. For instance, in the case of netflix.com, a monthly subscription fee provides users with access to thousands of movies. Many web versions of newspapers don’t even charge subscription fee, they may generate revenue from advertisement and partner promotions on the site. Some content providers include free content and premium content, and charge for the premium content. Other content providers may be such as academic journals which charge customers for content downloads in addition to, or in place of, a subscription 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 redistribute content produced by others after adding values on it. 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, arc another variation. For instance, Shopping.com 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. Shopping.com adds value to content it aggregates, and resells this value to advertisers who advertise on its site.

Any e-commerce start-up that intends to make money by providing content is likely to face difficulties unless it has a unique information source that others cannot access.

d. Portal: Portals such as Yahoo, MSN etc. offer users powerful search tools as well as an integrated package of content and senders, 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. hey are marketed as places where consumers will hopefully stay a long time to read news, find entertainment, and meet other people (think of destination resorts). For instance, in a job-portal, consumers can read content, search job, apply for job and also gets links to training packages and many more information about job. Portals do not sell anything directly or so it seems, and in that sense they can present themselves as unbiased.

Although there are numerous portal/search engine sites, the top five sites (Google, Yahoo, MSN/Bing, AOL, and Ask.com) gather more than 95% of the search engine traffic because of their superior brand recognition. Many of the top sites were among the first to appear on the Web and therefore had first-mover advantages.
Google, Yahoo, AOL, MSN, and others like them are considered to be horizontal portals because they define their marketspace to include all users of the Internet. Vertical portals (sometimes called vortals) attempt to provide similar services as horizontal portals, but arc focused around a particular subject matter or market segment. A portal is basically a website but one needs to login to access its features. Student portal is a vortal. A portal can be public or private. For example, student portal of a college is private portal, whereas web portal provided by msn is a public portal. Most of the public portal provide free email id with which we can create an account.

Portals generate revenue primarily by charging advertisers for ad placement, collecting referral fees for steering customers to other sites, and charging for premium services.

e. **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 arc financial services, travel services, and job placement services. The online transaction broker's primary value propositions arc savings of money and time. In addition, most transaction brokers provide timely information and opinions. Companies such as Monstcr.com offer job searchers a national marketplace for their talents and employers a national resource for that talent. Both employers and job seekers arc attracted by the convenience and currency of information. Online stock brokers charge commissions that are considerably less than traditional brokers, with many offering 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 arc 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. 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 cither 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.

f. **Market Creator:** Market creators build a digital environment in which buyers and sellers can meet, display products, search for products, and establish prices. Prior to the Internet and the Web, market creators relied on physical places to establish a market. Market has meant a physical space for transacting business, the Web changed this by making it possible to separate markets from physical space. One example may be ebay.com; which allows users to list items for sale, and other users to bid on them in auctions. It provides B2C and C2C sales services.

   For example, eBay's auction business model is to create a digital electronic 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 arc 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. The market opportunity for market creators is potentially vast, but only if the firm has the financial resources and marketing plan to attract sufficient sellers and buyers to the marketplace.

g. **Service Provider:** While e-tailers sell products online, service providers offer services online. Web 2.0 applications such as photo sharing, video sharing, and user-generated content (in blogs and social network sites) arc all services provided to customers. Google has led the way in developing online applications such as Google Maps, Google Docs, and Gmail. Much like retailers who trade products for cash, service providers trade knowledge, expertise, and capabilities for revenue.

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. Some services arc free but arc not complete. For instance, Google Apps' basic edition is free, but a business edition with advanced tools costs $5/user/month or $50/user/year.

Obviously, some services cannot be provided online. For example, dentistry, medical services, plumbing, and car repair cannot be completed via the Internet. However, online arrangements can be made for these 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— in the case of search engines and most Web 2.0 applications—they provide services that are truly unique. Marketing of service providers must allay consumer fears about hiring a vendor online, as well as build confidence and familiarity among current and potential customers. Building confidence and trust is critical for service providers just as it is for retail product merchants.

Table below illustrates the major business models utilized in the B2C arena.

BUSINESS MODEL	VARIATIONS	EXAMPLES	DESCRIPTION	REVENUE MODEL
E-tailer	Virtual Merchant	Amazon iTunes Bluefly	Online version of retail store, where customers can shop at any hour of the day or night without leaving their home or office	Sales of goods
	Bricks-and-Clicks	Walmart.com Sears.com	Online distribution channel for a company that also has physical stores	Sales of goods
	Catalog Merchant	LLBean.com LillianVernon.com	Online version of direct mail catalog	Sales of goods
	Manufacturer-Direct	Dell.com Mattel.com SonyStyle.com	Manufacturer uses online channel to sell direct to customer	Sales of goods
Community Provider		Facebook LinkedIn Twitter Pinterest	Sites where individuals with particular interests, hobbies, common experiences, or social networks can come together and "meet" online	Advertising, subscription, affiliate referral fees
Content Provider		WSJ.com CBSSports.com CNN.com ESPN.com Rhapsody.com	Information and entertainment providers such as newspapers, sports sites, and other online sources that offer customers up-to-date news and special interest how-to guidance and tips and/or information sales	Advertising, subscription fees, affiliate referral fees
Portal	Horizontal/ General	Yahoo AOL MSN Facebook	Offers an integrated package of content, content-search, and social network services: news, e-mail, chat, music downloads, video streaming, calendars, etc. Seeks to be a user's home base	Advertising, subscription fees, transaction fees
	Vertical/ Specialized (Vortal)	Sailnet	Offers services and products to specialized marketplace	Advertising, subscription fees, transaction fees
	Search	Google Bing Ask.com	Focuses primarily on offering search services	Advertising, affiliate referral
Transaction Broker		E*Trade Expedia Monster Travelocity Hotels.com Orbitz	Processors of online sales transactions, such as stockbrokers and travel agents, that increase customers' productivity by helping them get things done faster and more cheaply	Transaction fees
Market Creator		eBay Etsy Amazon Priceline	Businesses that use Internet technology to create markets that bring buyers and sellers together	Transaction fees
Service Provider		VisaNow.com Carbonite RocketLawyer	Companies that make money by selling users a service, rather than a product	Sales of services

Table: B2C business models

B2B Business Models:

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. Much of this activity is unseen and unknown to the average consumer. B2B e-commerce relies overwhelmingly on a technology called electronic data interchange (EDI). EDI is useful for one-to-one relationships between a single supplier and a single purchaser, and originally was designed for proprietary networks, although it is migrating rapidly to the Internet.

The major types of B2B business models are:

- Network Market Places
- Private Industrial Networks

1. Network Market Places:

Network marketplaces are the online market places where different business vendors can gather and do transaction. The network marketplace can be divided into following categories:

- E-distributor
- E-procurement
- Exchange
- Industry consortium

a. **E-distributor:** Companies that supply products and services directly to individual businesses are distributors. E-distributors arc owned by one company seeking to serve many customers. However, as with exchanges (described on the next page), critical mass is a factor. 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.

b. **E-procurement:** It is the type of software service that provide procurement management facility of a business organization. It helps in buying the goods and services needed for a company to stay sustainable. It helps to decide market value of the product or service being purchased by a company. Every big company now a days has a procurement management department that monitors every purchase a company makes and tries to assure it reliability, quality and profitability.
Procurement doesn't only include purchasing, rather it includes all activities involved in purchasing any product, service from any supplier, logistics (transportation) channel and warehousing of the goods. Procurement done online is e-procurement.

Major components of procurement include:

- Right price
- Timely delivery
- Right quality
- Right quantity
- Right source
- Right time to purchase

An e-procurement software manages all the activities listed above. E-procurement is B2B business in which, the service provider provides subscription-based software service to the client business that help to manage procurement.

c. **Exchange Market:** Exchanges have garnered most of the B2B attention and early funding because of their potential market size even though today they are a small part of the overall B2B picture. An exchange is an independent digital electronic 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 panics. They usually serve a single vertical industry such as steel, polymers, or aluminum, 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. The ease, speed, and volume of transactions are summarily referred to as marker liquidity.

   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 behavior away from trusted long-term trading partners. As a result, the number of exchanges has fallen significantly.

d. **Industry consortium:** Industry consortia are industry-owned vertical marketplaces that serve specific industries, such as the automobile, aerospace, chemical, floral, or logging industries. In contrast, horizontal marketplaces sell specific products and services to a wide range of companies. 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.

   Industry consortia have tended to be more successful than independent exchanges in than because they are sponsored by powerful, deep-pocketed industry players, and also because they strengthen traditional purchasing behavior rather than seek to transform it.

2. Private Industrial Networks:

Private industrial networks constitute about 75% of all B2B expenditures by large firms and far exceed the expenditures for all forms of Net marketplaces. A private industrial network (sometimes referred to as a private trading exchange or PTX) is a digital network (often but not always Internet-based) designed to coordinate the flow of communications among firms engaged in business together. 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.

Following table shows the summary of major B2B business models:

BUSINESS MODEL	EXAMPLES	DESCRIPTION	REVENUE MODEL
(1) NET MARKETPLACE			
E-distributor	Grainger.com Partstore.com	Single-firm online version of retail and wholesale store; supply maintenance, repair, operation goods; indirect inputs	Sales of goods
E-procurement	Ariba 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	OceanConnect	Independently owned vertical digital marketplace for direct inputs	Fees and commissions on transactions
Industry Consortium	Exostar Elemica	Industry-owned vertical digital market open to select suppliers	Fees and commissions on transactions
(2) PRIVATE INDUSTRIAL NETWORK			
	Walmart Procter & Gamble	Company-owned network that coordinates supply chains with a limited set of partners	Cost absorbed by network owner and recovered through production and distribution efficiencies

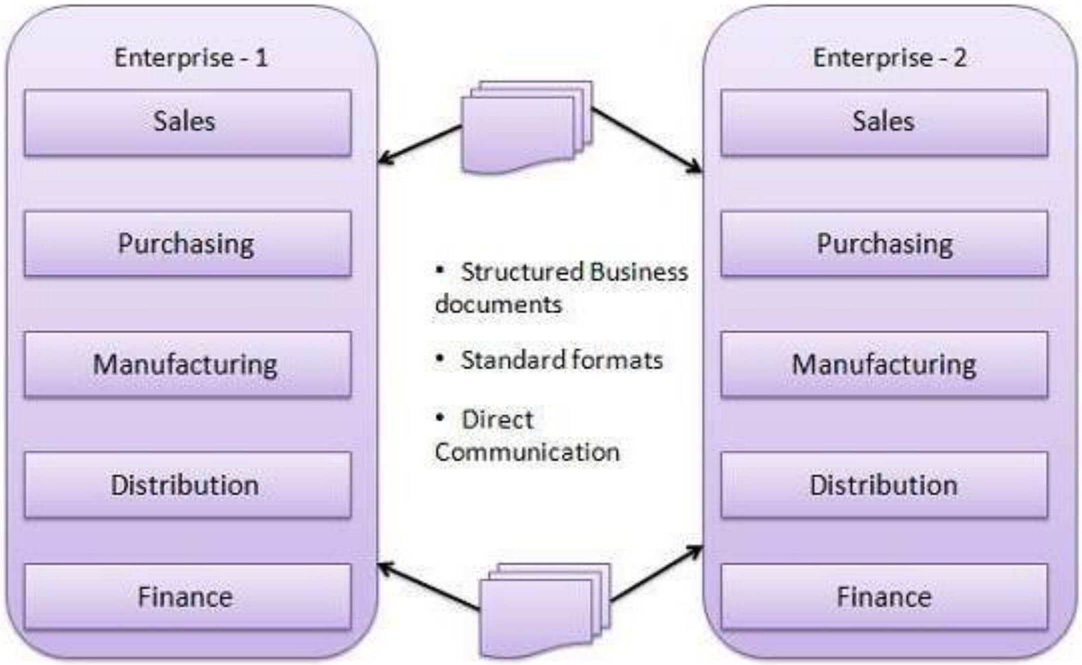
Electronic Data Interchange (EDI):

Electronic Data Interchange is a technique for computer to computer exchange of business documents in a standard electronic format between business partners or companies. EDI is a broadly defined communications protocol for exchanging documents among computers using technical standards developed by the American National Standards Institute (ANSI XI2 standards) and international bodies such as the United Nations (EDIFACT standards).

EDI was developed to reduce the cost, delays, and errors inherent in the manual exchanges of documents such as purchase orders, shipping documents, price lists, payments, and customer data. Companies use EDI systems for exchanging business information automatically by computer systems as transactions without paper and hence minimizes or completely eliminates the human intervention. Electronic data interchange is generally used for B2B transactions.

Common EDI documents include:

- Purchase order
- Invoice
- Shipping request
- Acknowledgement



EDI System: Both the enterprises have EDI applications installed in their systems. Enterprise 1 uses its EDI application to generate an EDI document that it wants to share with the other enterprise. The format of this EDI document must be the standard format that has been decided by the two enterprises for sharing EDI documents during their deals. This document is shared with the other enterprise over the network. The document is received by the Enterprise 2 in the standard format on the EDI application. This is how the two enterprises exchanges business documents electronically and minimizes or eliminates the human interventions.

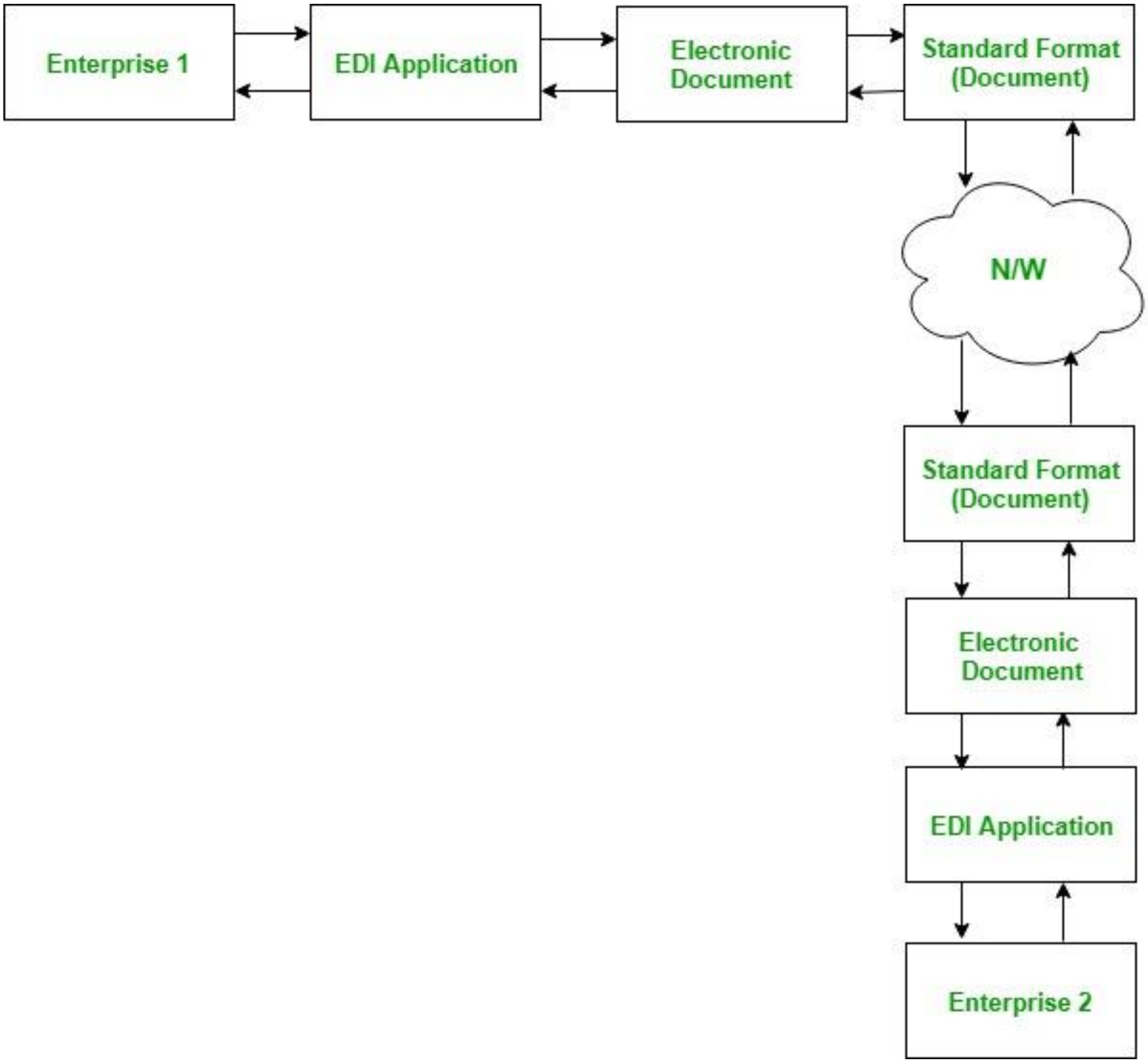


Fig: EDI system

Advantages:

- As it is direct computer to computer transaction system, it is high speed.
- Due to reduced human intervention, it is very accurate.
- Simple to use.
- Highly secure due to less human intervention.
- Reduction in paper work.
- Cost effective.
- Reduced trading restrictions.
- Error free documentation.

EDI layered Architecture:

EDI architecture includes 4 layers,

- Application Layer

- Standards translation layer
- Transport layer
- Physical network infrastructure layer

1. **Application Layer:** The first layer of EDI defines the business applications that are used by EDI. This layer of EDI translates business application into request for quotes, purchase orders, acknowledgement and invoices. For every company, this layer is specific and also for software that company uses.

   The application layer is also called semantic layer. The semantic layer describes the business applications that is driving EDI.

2. **Standard Layer:** This layer of EDI architecture defines the structures of the business form and some content which are related with the application layer. It is interlinked with application layer.

3. **Transport Layer:** EDI transport layer is a non-electronic way of sending the business form from one company to another. This non-electronic way may be registered mail, postal services or private career, telecommunications, fax etc. Now a days the transportation method is more complex with compare to e-mail.

4. **Physical Layer:** The physical layer of EDI is also called the infrastructure layer. This layer defines the component communication path for EDI data transaction. What are the structure of e-commerce supported EDI in which information can be build and what are the communication established over which EDI data transfer from one customer to another customer.

EDI in E-commerce:

Discussed above. For more go for self study.

E-Commerce & 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. One of the basic tools for understanding the impact of information technology on industry and firm operations is the value chain. The concept is quite simple. 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.

The six generic players in an industry value chain are:

- Suppliers

- Manufacturers
- Transporters
- Distributors
- Retailers
- Customers

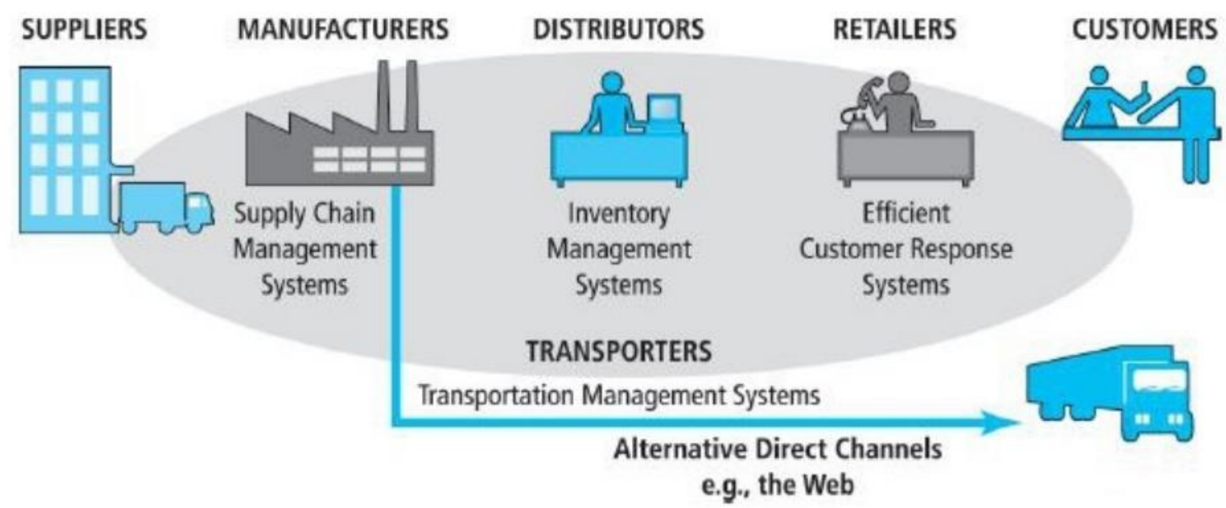


Fig: Key Players of Industry Value Chain

By reducing the cost of information, e-commerce offers each of the key players in an industry value chain new opportunity 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.

Firm Value Chain:

The set of activities a firm engages in to create final products from raw inputs is called as firm value chain. The concept of value chain can be used to analyze a single firm's operational efficiency as well. The question here is: How does e-commerce technology potentially affects the value chains of firms within an industry? 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.

Every firm can be characterized by a set of value-adding primary and secondary activities performed by a variety of actors in the firm. A simple firm value chain performs five primary value-adding steps, they are:

- Inbound logistics

- Operations
- Outbound logistics
- Sales and marketing
- After sales service.

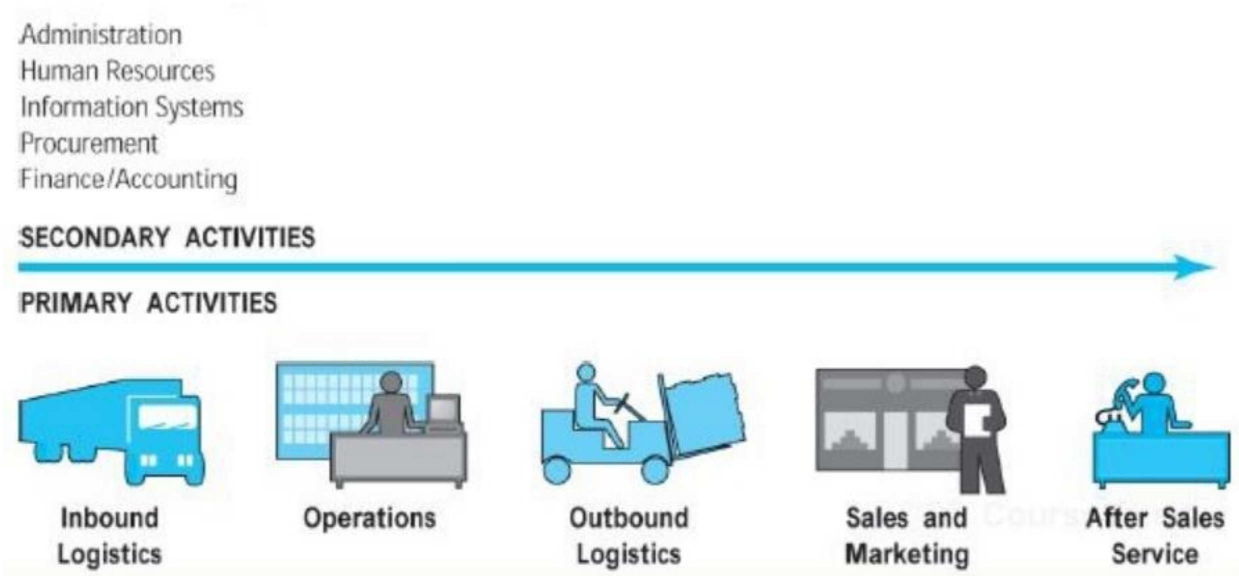


Fig: Key players of firm value chain

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 bookstores cannot.

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.

Following figure illustrates the firm value web,

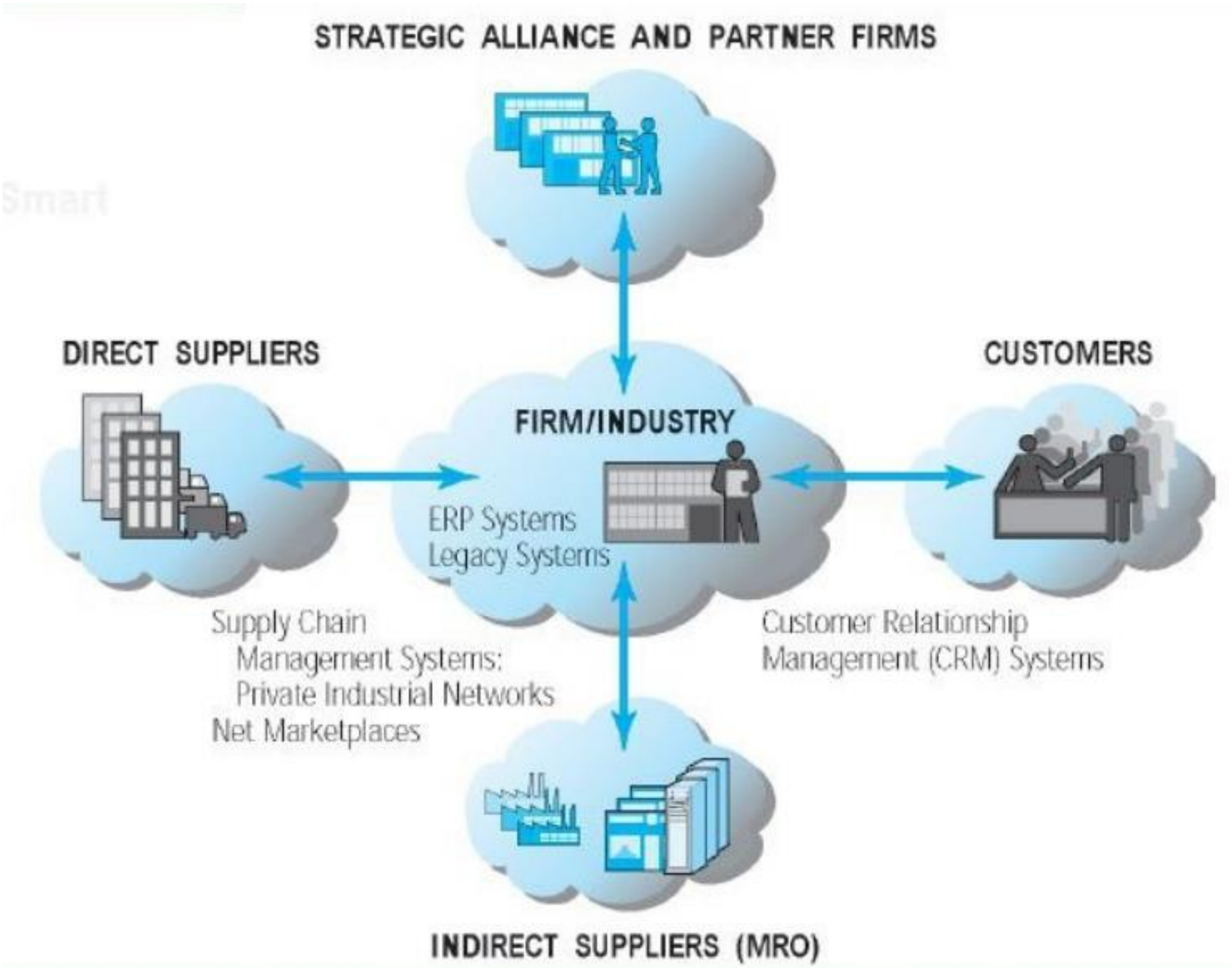


Fig: Firm Value Web

A value web coordinates a firm's suppliers with its own production needs using an Internet-based supply chain management system (B2B). Firms also use the Internet to develop close relationships with their logistics partners. For instance, Amazon relics 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.

Case Study of E-commerce Systems:

Pandora: Pandora is an American subscription-based music streaming service owned by Sirius XM Holdings. The service originally launched in the consumer market as an internet radio service, which would generate personalized channels based on these traits and songs liked by the user; this service is available in an advertising-supported tier, and a subscription-based version. In 2017, the service launched Pandora Premium, an on-demand version of the service more in line with contemporary competitors. Pandora now accounts for more than70% of all

Internet radio listening hours and a 7% share of total U.S. radio listening. At Pandora, users select a genre of music based on a favorite musician, and a computer algorithm puts together a personal radio station that plays not only the music of the selected artist but also closely related music by different artists. A team of professional musicians listens to new songs each day and classifies the music according to more than 400 musical criteria including male or female vocal, electric vs. acoustical guitar, distortion of instruments, presence of background vocals, strings, and various other instruments. These criteria are used in a computer algorithm to classify new songs into five genres: Pop/Rock, Hip-Hop/Electronica, Jazz, World Music, and Classical. Within each of these genres arc hundreds of sub-genres. Users can create a radio station with a favorite artist and listen to different songs of not only the selected artist but also other artists having same genre.

Pandora's founders, Will Glaser and Tim Westergren, launched Pandora in 2005. Their biggest challenge was how to make a business out of a totally new kind of online radio station when competing online stations were making music available for free, many without advertising, and online subscription services were streaming music for a monthly fee and finding some advertising support as well. Online music illegally downloaded from P2P networks for free was also a significant factor, as was iTunes, which by 2005 was a roaring success, charging 99 cents a song with no ad support, and 20 million users at that time. The idea of a "personal" radio station playing your kind of music was very new. Facing financial collapse, in November 2005 Pandora introduced an ad-supported option. Subscribers could listen to a maximum of 40 hours of music in a calendar month for free. After the 40 hours were used up, subscribers had three choices: (a) pay 99 cents for the rest of the month, (b) sign up for a premium service offering unlimited usage, or (c) do nothing. If they chose (c), the music would stop, but users could sign up again the next month. The ad-supported business model was a risky move because Pandora had no ad server or accounting system, but it attracted so many users that in a few weeks they had a sufficient number of advertisers including Apple. In2006, Pandora added a "Buy" button to each song being played and struck deals with Amazon, iTunes, and other online retail sites. Pandora now gets an affiliate fee for directing listeners to Amazon where users can buy the music. In 2008, Pandora added an iPhone app to allow users to sign up from their smart phones and listen all day if they wanted. This added 35,000 new users a day. By 2009, this "free" ad-supported model had attracted 20 million users. All of Pandora's plans come with restrictions required by the music companies that own the music, including the inability to hear a song on demand, no replay, and a skip limit of six skips per hour per station. Also, the music cannot be used commercially or outside the United States. After struggling for years showing nothing but losses, threatened by the music companies who wanted to raise their Internet radio rates, Pandora finally had some breathing room. in late 2009, the company launched Pandora One, a premium service that offered no advertising, higher quality streaming music, a desktop app, and fewer usage limits. The service cost $36 a year. By July 2010, Pandora had 600,000 subscribers to its premium service, about 1% of its 60 million users.

Pandora's "new" business model (freemium) proved so successful that it went public in June 2011. Revenues again doubled in 2011, to $274 million, and in 2012, to S427 million with about 88% ($375 million) coming from advertising and remainder from subscriptions and other sources.

Pandora is an example of the "freemium" business revenue model. The model is based on giving away some services for free to 99% of the customers, and relying on the other 1% of the customers to pay for premium versions of the same service. the marginal cost of digital products is typically close to zero, providing free product docs not cost much, and potentially enables you to reach many more people, and if the market is very large, even getting just 1% of that market to purchase could be very lucrative. There arc many other examples of successful freemium model companies. For many traditional print media like newspapers and magazines, the freemium model may be their path to survival. But it won't work for every online business.

While it clearly has worked for Pandora, there is ongoing debate among e-commerce CEOs and venture capitalists about the effectiveness of the freemium model. The crux of the issue is that while freemium can be an efficient way to gather a large group of potential customers, companies have found that it's a challenge to convert eyeballs into those willing to pay. Absent subscriber revenue, firms need to rely on advertising revenues.

MailChimp's story is both a success and a cautionary tale. The company lets anyone send e-mail newsletters to customers, manage subscriber lists, and track the performance of an e-mail marketing campaign. Despite the powerful tools it gives marketers, and its open applications programming interface, after 10 years in business, the company had only 85,000 paid subscribers.

In 2009, CEO Ben Chestnut decided that it was time to implement new strategies to attract additional customers. MailChimp began giving away its basic tools and charging subscription fees for special features. The concept was that as those customers' e-mail lists grew, they would continue using MailChimp and be willing to pay for enhanced services. These services included more than just the ability to send e-mails to a greater number of people. Clients would pay to use sophisticated analytics to help them target their e-marketing campaigns more efficiently and effectively.

3 million subscribers worldwide, sending 35 billion e-mails a year. However, Ning, a company that enables users to create their own social networks, tried freemium and came to a different conclusion. They abandoned it in July 2010.

So when does it make sense to include freemium in a business plan? It makes sense when the product is easy to use and has a very large potential audience, preferably in the millions. A solid customer value proposition is critical. It's helpful if a large user network increases the perceived value of the product. Freemium may work when a company has good long-term customer retention rates and the product produces more value over time. An extremely important part of the equation is that the variable costs of providing the product or service to additional customers for free must be low.

low marginal cost, approaching zero, to support free users. It also makes sense for a company where the value to its potential customers depends on a large network like facebook.

For example, Evernote, a personal note-taking service, added freemium to its business model and has since grown its user base to over 65 million, adding about 100,000 users a day. The company has over 1.4 million paying users. Evernote reportedly has a conversion rate of about 3.7%, which is considered to be quite high in the freemium business world. Evernote has also discovered that the longer a subscriber remains an active user, the more likely he or she is to convert to a premium subscription. For instance, 12% of those who continue to use Evernote for at least two years become premium subscribers. Evernote currently is taking in about $75-580 million in revenues and has raised over $250 million in funding, the most recent round of which has valued the company at $1 billion, clear proof that the freemium model can add tremendous value. Freemium also works when a business can be supported by the percentage of customers who are willing to pay, like Evernote and Pandora, especially when there are other revenues like affiliate and advertising fees that can make up for shortfalls in subscriber revenues. Freemium has also become the standard model for most apps, with over 75% of the top 100 apps in Apple's app store using a freemium strategy.