



## NPTEL ONLINE CERTIFICATION COURSES

# Management Information System

Saini Das

Vinod Gupta School of Management, IIT Kharagpur

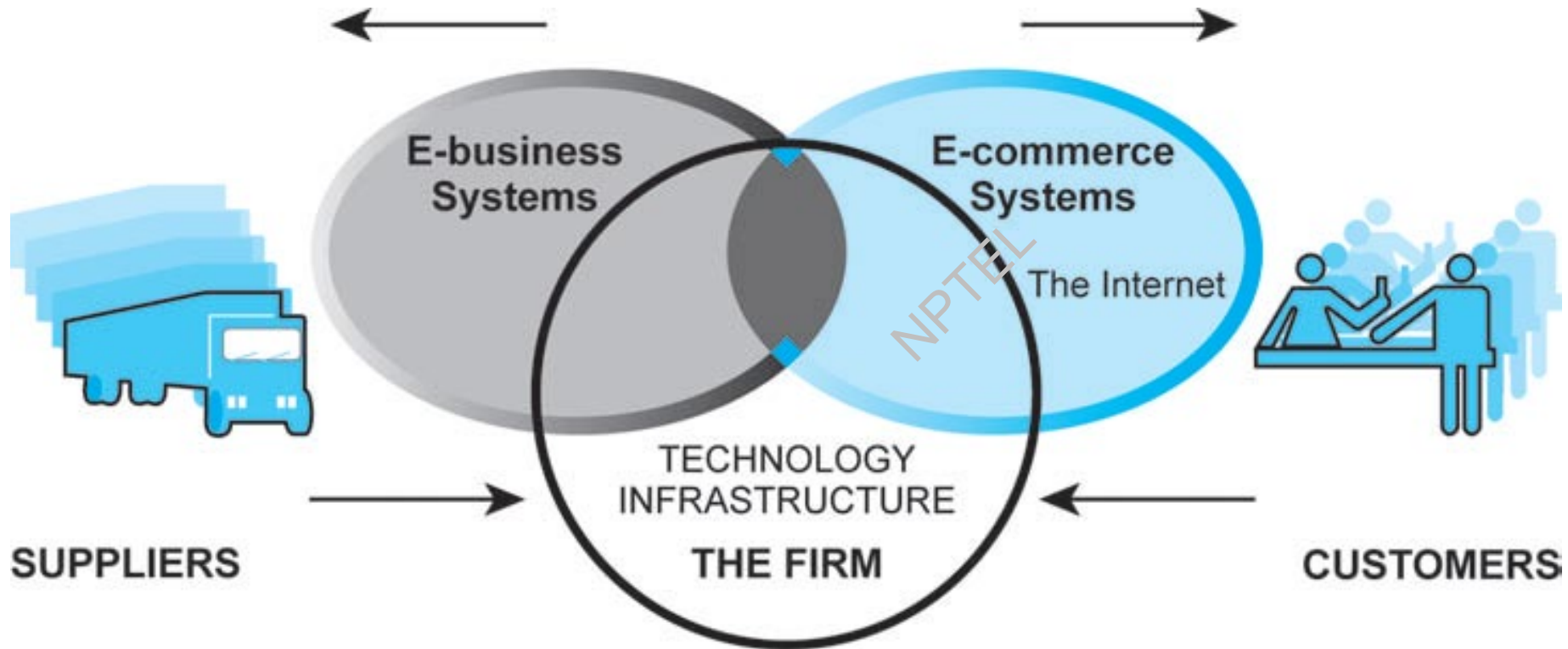
**Module 08: E-commerce : Digital Markets, Digital Goods**  
**Introduction to E-commerce**

# E-commerce

**Digitally enabled commercial transactions** (involving exchange of value) between and among organizations and individuals.

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# E-commerce v/s E-business



# Unique Features of E-commerce

- Ubiquity
- Global reach
- Richness
- Interactivity
- Information density (plentiful, cheap and accurate)
- Personalization/customization
- Network effect
- Hit and run pricing

# Personalization

- Merchants can target their marketing message to specific individuals by adjusting it to a persons' clickstream behavior, names, interests and past purchases.

[See more product promotions](#)

## Frequently Bought Together



+



Price for both: **\$258.23**



[Show availability and shipping details](#)

- ✓ **This item:** Samsung Chromebook (Wi-Fi, 11.6-Inch) **\$244.46**
- ✓ [Case Logic LAPS-111 10 - 11.6 -Inch Chromebook/Netbook Sleeve \(Black\)](#) **\$13.77**

Buy with Confidence  
\$258.95 + \$6.99 ship

- [Add to Cart](#)  
KingsvilleTexas  
\$265.98 & **FREE Sh**  
[Details](#)
- [Add to Cart](#)  
BuyBuy Online  
\$266.00 & **FREE Sh**  
[Details](#)

[117 used & new](#) from \$150.00  
[Share](#)

## Customers Who Bought This Item Also Bought



[Case Logic LAPS-111  
10 - 11.6 -Inch](#)



[Canopy 2-Year Laptop  
Accidental Protection Plan](#)



[SquareTrade 2-Year  
Computer Accident](#)



[iPearl mCover Hard Shell  
Case for 11.6" Samsung](#)



[iPearl mCover Hard Shell  
Case for 11.6" Samsung](#)



[iPearl mCover Hard Shell  
Case for 11.6" Samsung](#)

# Customization

- Customization refers to changing the delivered product or service based on a user's preference or past purchases.



**"I Built It, Therefore I Own It"**

# Types of E-commerce

- **Business-to-consumer (B2C)**
  - Amazon.com
- **Business-to-Business (B2B)**
  - Indiamart.com
- **Consumer-to-consumer (C2C)**
  - e-Bay, Etsy
- **Mobile e-commerce**

# Global E-commerce Market Ranking

- Logistics ranking
- Average revenue per shopper
- Total market revenue
- Percentage of population shopping online
- Number of online shoppers
- Percentage of cross-border shoppers
- Number of cross-border shoppers
- CAGR 2018-2022

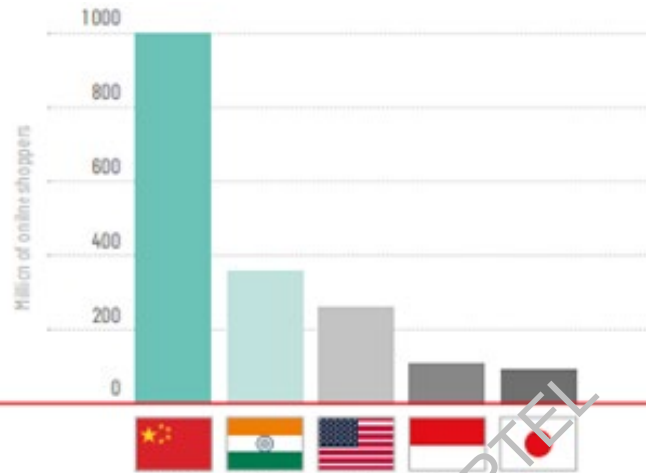


1		United States	11		Sweden	21		Saudi Arabia
2		China	12		Austria	22		Denmark
3		United Kingdom	13		Australia	23		Turkey
4		Japan	14		Netherlands	24		Poland
5		Germany	15		India	25		Ireland
6		France	16		Russia	26		Belgium
7		Canada	17		Norway	27		Singapore
8		Italy	18		Mexico	28		Finland
9		Spain	19		Switzerland	29		Hong Kong
10		Korea	20		Indonesia	30		Portugal

# Global E-commerce Market Ranking (contd..)

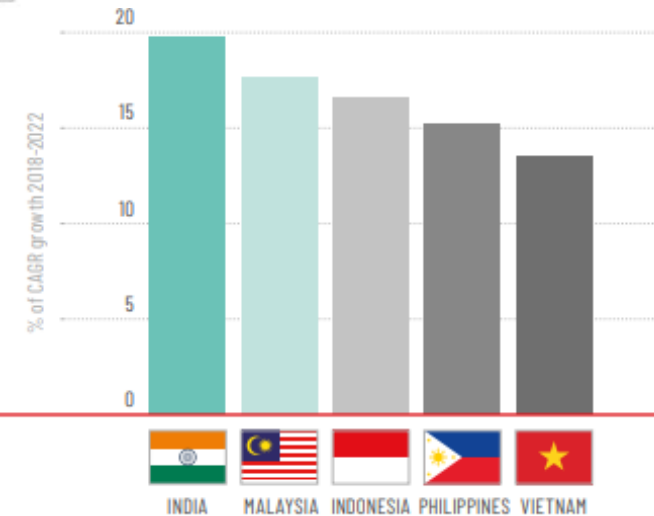
Top 5 markets by total number of online shoppers

<b>1. China</b>	<b>1 billion</b>
2. India	360.1 million
3. USA	258.5 million
4. Indonesia	107 million
5. Japan	89.9 million



Top 5 countries by % of CAGR growth 2018-2022

<b>1. India</b>	<b>19.8%</b>
2. Malaysia	17.6%
3. Indonesia	16.6%
4. Philippines	15.2%
5. Vietnam	13.5%



# E-commerce Challenges

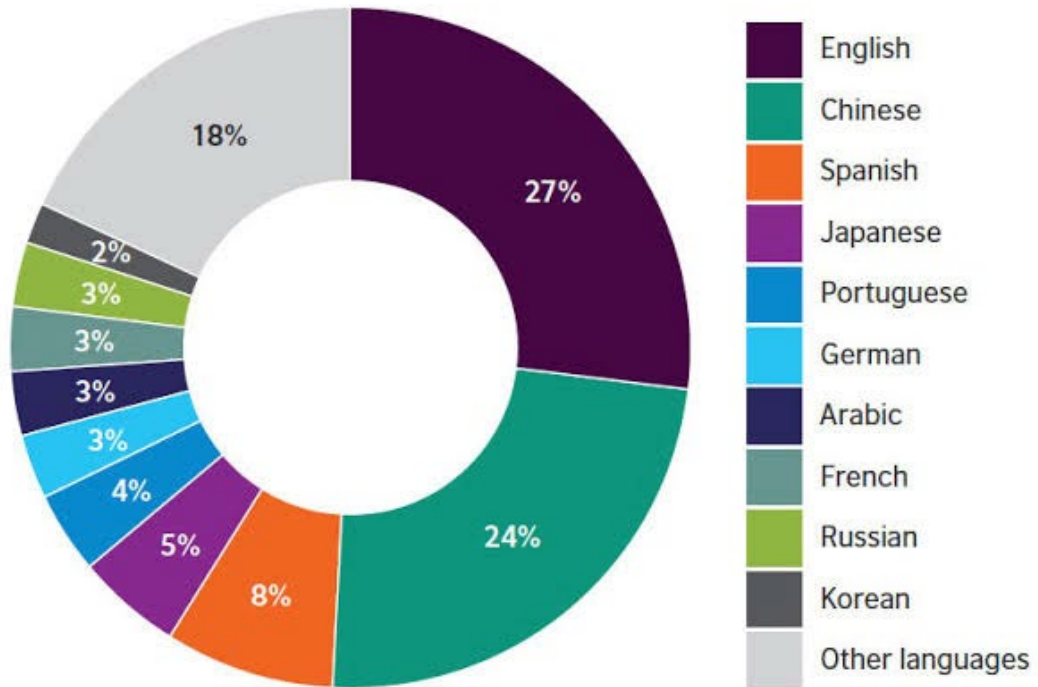
# Trust Issues



*"On the Internet, nobody knows you're a dog."*

# Language and Cultural Issues

Internet use by language



<https://www.youtube.com/watch?v=TBFC5isQuYA>



# Security Issues



## Safeguarding e-Commerce Revenues from DDoS Attacks this Holiday Season

### 4 warning signs your website could be targeted



Others in your industry have been attacked.  
*Pay attention!*



Hackers sometimes announce their targets on social media sites.  
*Monitor!*



You receive an extortion or blackmail attempt.  
*Don't ignore!*



Your network has experienced undiagnosed problems.  
*Investigate!*

### 4 ways to ensure Q4 site availability



Learn how different types of DDoS threats can affect your IT infrastructure. Then select a DDoS mitigation service that will protect it.



Keep up with trends in DDoS attack signatures and toolkits. Prolexic has a wealth of information and threat reports at [www.prolexic.com](http://www.prolexic.com).



Have a single source for DDoS mitigation services. Multiple appliances and vendors add to complexity, downtime and costs.



Make DDoS part of your disaster recovery plan. Choose team members, validate your plan, and organize information for easy, fast accessibility to eliminate panic.

# Legal and Ethical Issues



"According to your HIPAA release form  
I can't share anything with you."



# References

- K. Laudon and J. Laudon (2016). Management Information Systems Publisher: Pearson. Edition 14e.
- R. De. (2018). MIS Managing Information Systems in Business, Government and Society. Publisher: Wiley. Second Edition.
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**Module 08: E-commerce : Digital Markets, Digital Goods**  
**B2C Business Models**

# Business model

- Business model ascertains the **value proposition** of your business and how your **business makes money (revenue model)**.

# Key Elements of a Business Model

- **Value Proposition:** How a company's product or services fulfills customer needs?
- **Revenue Model:** How to earn money? (Sales/Advertising/Transaction fee)
- **Market Opportunity:** What marketplace you intend to serve and target audience?
- **Competitive Environment:** Who else occupies your intended marketplace?
- **Competitive Advantage:** What special advantages does your firm bring to the marketplace?
- **Market Strategy:** How to promote products and attract target audience?
- **Organizational Development:** How the company needs to organize?
- **Management Team:** What experiences and backgrounds are important for company's leaders?

# Five Primary Revenue Models

REVENUE MODEL	EXAMPLES	REVENUE SOURCE
Advertising		Fees from advertisers in exchange for advertisements
Subscription	WSJ.com Consumerreports.org	Fees from subscribers in exchange for access to content or services
Transaction Fee	eBay	Fees (commissions) for enabling or executing a transaction
Sales	LLBean Gap JCPenny.com	Sales of goods, information, or services
Affiliate		Fees for business referrals

# Affiliate Revenue Model





# B2C Business Models

Business Model	Variations	Examples	Description	Revenue Model
Portal	Horizontal/ General	Yahoo AOL MSN	Offers an integrated package of content and services. Seeks to be a user's home base	Advertising
	Vertical/Specialized (Vortal)	Sailnet	Offers services and products to specialized domains	Effective for advertisers
	Search	Google	Search Services	Advertising
Virtual Merchant	E-tailers/ Pureplay/ Resellers	Flipkart(pre-2013) Netmeds Amazon	Online version of retail store	Sales of goods
	Brick and click	Walmart.com Shoppers Stop	Online distribution channel for a company that already has physical stores	-do-
	Click and brick	Lenskart.com Bluestone.com Pepperfry.com	Physical stores for an existing online company	-do-
	Manufacturer direct	Dell.com Sony.com	Manufacturer uses online channel to sell directly to customer	-do-



Business Model	Examples	Description	Revenue Model
<b>Content Provider</b>	HBR WSJ.com CNN.com	Information and entertainment providers such as newspapers, sports and special interest guidance	Advertising, Subscription fees (Freemium), Affiliate Referral fees
<b>Transaction Broker</b>	Makemytrip Hotels.com RedBus Yatra.com	Processors of online sales transactions such as stockbrokers and travel agents (OTAs).	Transaction fees
<b>Market Creator/ Marketplace</b>	Flipkart (post 2013) Housing.com	Web-based businesses that use Internet technology to create markets where buyers and sellers meet, search for products and complete transactions,	Transaction fees Listing fees
<b>Service provider</b>	VisaNow.com BharatMatrimony.com MOOCs RocketLawyer	Online Service sellers	Sales of services, Commission fees, Listing Fees
<b>Community provider</b>	Facebook Linkedin WebMD The Motley Fool	Social networking for people with common interests, hobbies.	Advertising, Subscription fees, Referral fees

# References

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B2B Business Models**

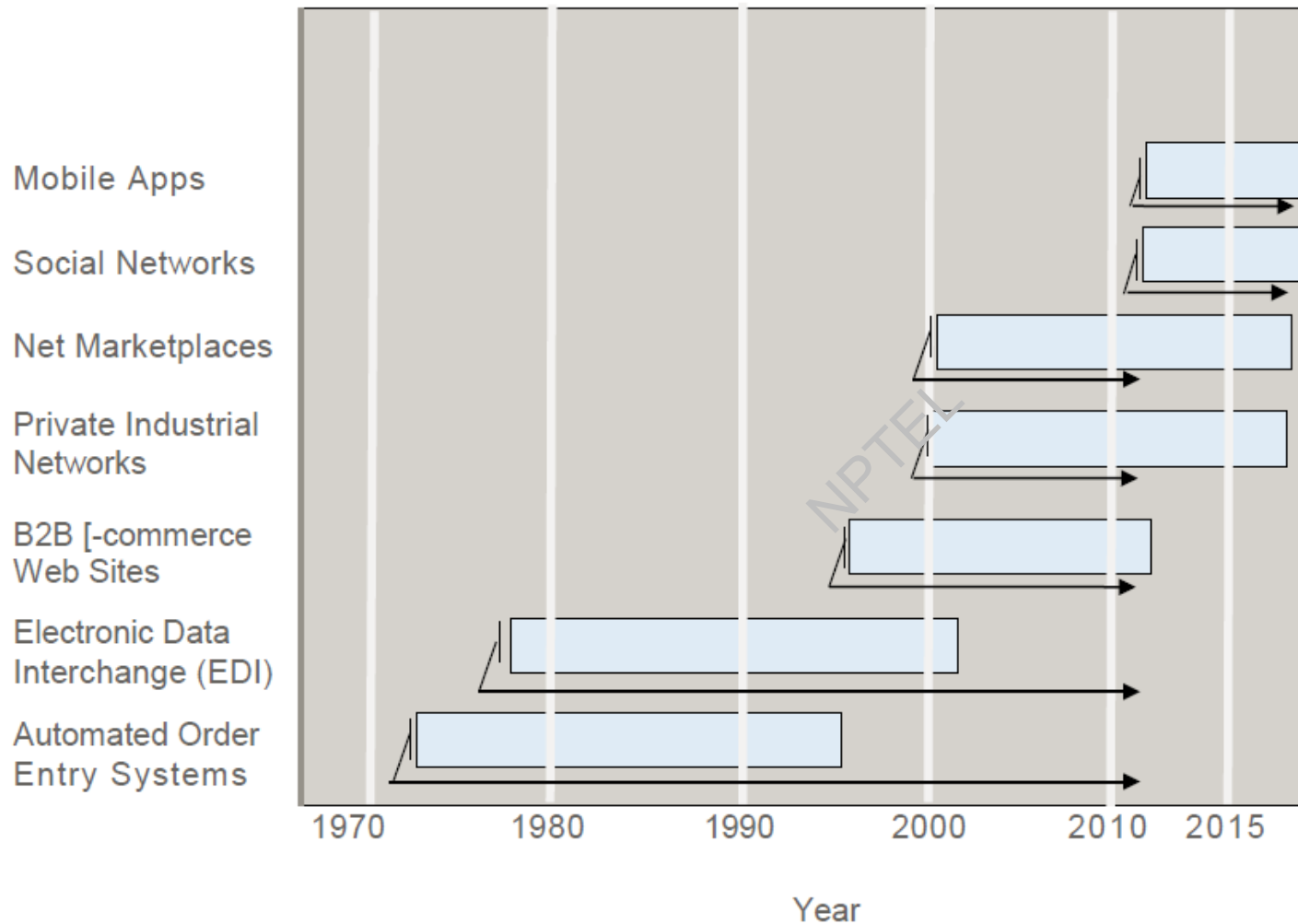
# B2B E-commerce

- Inter-firm trade to exchange value across organizational boundaries enabled by the Internet and mobile apps.
- Business Processes involved:
  - Demand Management
  - Order fulfilment
  - Manufacturing management
  - Procurement
  - Product development
  - Returns
  - Logistics/transportation
  - Inventory management
  - CRM
- The global B2B e-Commerce market value of US\$12.2 trillion in 2019 is over **6 times** that of the B2C market.

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# Evolution of technology platforms in B2B E-commerce



# Automated Order Entry Systems

- Telephone modems used to send digital orders
- Some companies automated reordering by placing the modems in their procurement offices.
- They are seller-side solutions as they showed goods only from a single seller.

# Electronic Data Interchange

- One of the earliest uses of IT for SCM.
- Involves the electronic exchange of business transaction (BT) documents between supply chain trading partners
- BT documents are converted to standardized EDI formats as specified by industry and international protocols.
- Owned by buyers, hence they are buyer-side solutions.
- Important industrial network technology to support communication among a small set of strategic partners.
- Not suitable for net marketplaces



# Net Marketplace

- Digital platform that brings B2B buyers and sellers together

CHARACTERISTIC	MEANING
Bias	Sell-side vs. buy-side vs. neutral. Whose interests are advantaged: buyers, sellers, or no bias?
Ownership	Industry vs. third party. Who owns the marketplace?
Pricing mechanism	Fixed-price catalogs, auctions, bid/ask, and RFPs/RFQs.
Scope/Focus	Horizontal vs. vertical markets.
Value creation	What benefits do they offer customers or suppliers?
Access to market	In public markets, any firm can enter, but in private markets, entry is by invitation only.

*Characteristics of Net Marketplaces*

# Classification of Net Marketplaces

- **What Businesses Buy:**

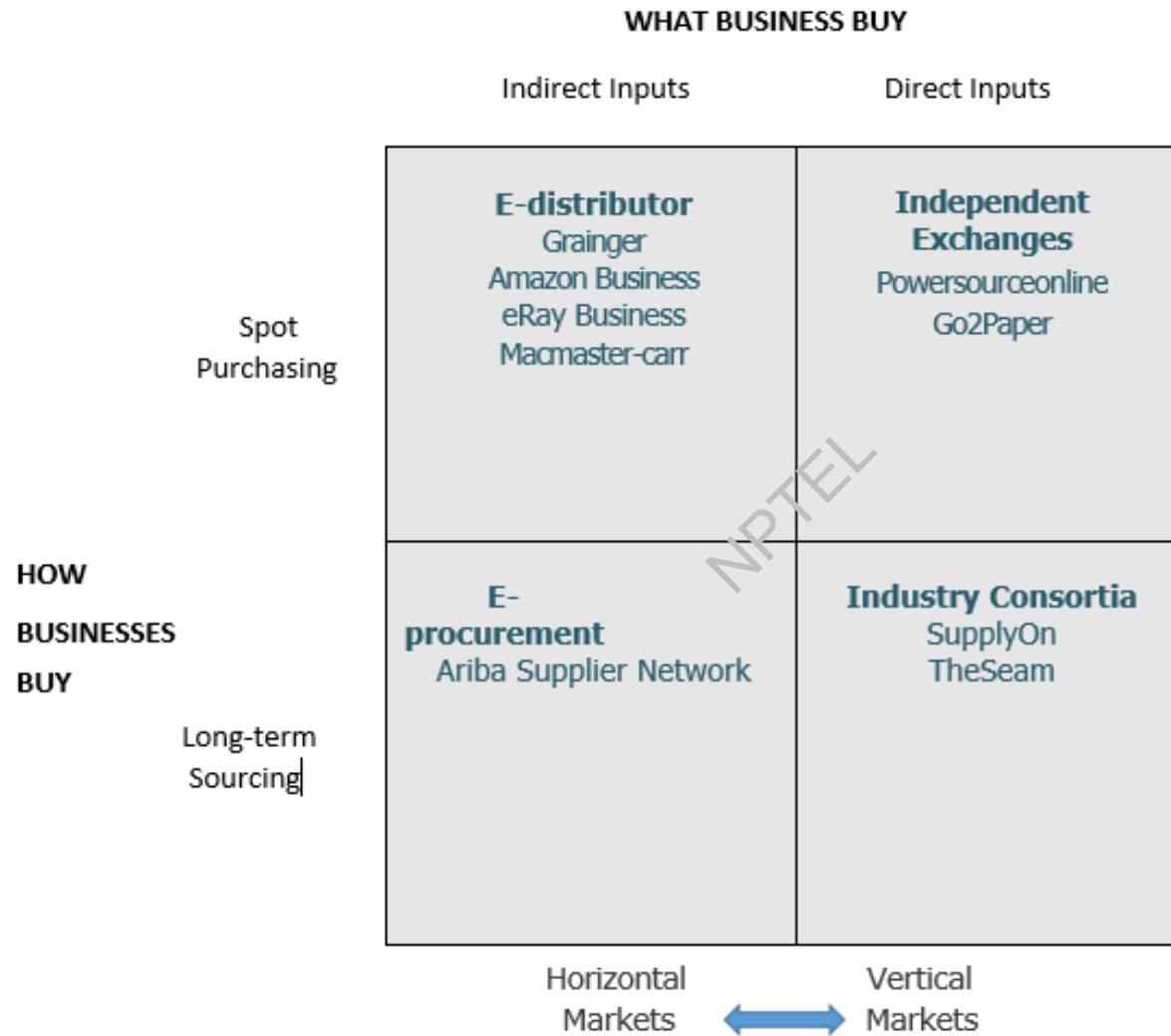
- Direct Input
- Indirect Input

- **How Businesses Buy:**

- Spot purchasing (Episodic and anonymous purchases)
- Long-term sourcing (Purchases that take place over many years according to a contract between a firm and its vendor)

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# Types of Net Marketplaces



# Types of Net Marketplaces (contd..)

Business Model	Examples	Description	Revenue Model
<b>E-Distributor</b> (Indirect input; Spot purchasing)	Grainger.com; Amazon Business	Independently owned B2B equivalent of a B2C reseller; Horizontal platform; public Market; seller-biased.	Sales of goods
<b>E-procurement</b> (Indirect input; long-term sourcing)	SAP-Ariba; IBM Emptoris Sourcing;	Independently owned digital marketplace where sellers and buyers transact for products and services; Horizontal platform; Neutral; public market.	Transaction fees; listing fees
<b>Exchange</b> (Direct input; Spot purchasing)	MolBase IronPlanet PowerSource Online	Independently owned vertical digital marketplace for many suppliers and small number of large commercial buyers; public market; buyer-biased.	Transaction fees
<b>Industry Consortium</b> (Direct input; long-term sourcing)	E2Open	Industry-owned vertical digital market open to select suppliers for optimizing the industry supply-chain; buyer-biased; Private market.	Transaction fees; Payment from industry members

# Examples

EXCHANGE	FOCUS
PowerSource	Computer parts exchange, new and used computer equipment
Online Converge	Electronic components
IronPlanet	Used heavy equipment
EquipNet	Used industrial equipment and online auctions
Intercontinental Exchange	International online marketplace for over 600 commodities

*Examples of Independent Exchanges*

INDUSTRY	NAME OF INDUSTRY CONSORTIA
Agribusiness	The Seam
Automotive	SupplyOn
Chemical	Elemica
Food	Dairy.com
Hospitality	Avendra

*Examples of Industry Consortia*

*Examples of Industry Consortia*

**CYBERSALE**

From batteries to power tools, don't miss these limited-time offers of 10 to 50% off popular products! Don't wait! Deals end 12/6/13

Start Saving Now

Bulk Order Pad

Product Categories

Abrasives  
Adhesives, Sealants and Tape  
Cleaning  
Electrical  
Electronics, Appliances, and Batteries  
Fasteners  
Fleet and Vehicle Maintenance  
Furniture, Hospitality and Food Service  
HVAC and Refrigeration  
Hand Tools  
Hardware  
Hydraulics  
Lab Supplies  
Lubrication  
Machining  
Material Handling  
Motors  
Office Supplies  
Outdoor Equipment  
Paint, Equipment and Supplies  
Plumbing  
Pneumatics  
Power Tools  
Power Transmission  
Pumps  
Raw Materials  
Reference and Learning Supplies  
Safety  
Security  
Test Instruments  
Welding

Brands



**50% Off Duracell Batteries**



Save big on select Coppertop Bulk Packs. Hurry! Ends 12/6/13.

[SAVE NOW >](#)

**CYBERSALE**  
Limited-time offers on some of our most popular products! >

Check Out These Top Sellers

1 of 5   [Prev](#) | [Next](#) >

			
<b>Retrofit Kit, Toilet, Top Mount, 1.6 GPF</b> Item # 3UU59 SLOAN	<b>Extension Cord, 50ft</b> Item # 3EB10 POWER FIRST	<b>Extension Cord, 100 Ft</b> Item # 1FD57 POWER FIRST	<b>Telescoping Ladder, 19 ft., 1A, Aluminum</b> Item # 3EJT7 LITTLE GIANT
Price: <b>\$428.50</b>	Price: <b>\$75.95</b>	Price: <b>\$120.10</b>	Price: <b>\$619.00</b>
<input type="text" value="1"/> <a href="#">Add to Cart</a>	<input type="text" value="1"/> <a href="#">Add to Cart</a>	<input type="text" value="1"/> <a href="#">Add to Cart</a>	<input type="text" value="1"/> <a href="#">Add to Cart</a>

# Private Industrial Networks

Business Model	Examples	Description	Revenue Model
<b>Single Firm</b>	Walmart Procter & Gamble	Company-owned network to coordinate trans-organizational business processes/collaborative commerce with a limited set of partners; private market	Cost absorbed by network owner and recovered through production and distribution efficiencies

# References

- K. Laudon and J. Laudon (2016). Management Information Systems Publisher: Pearson. Edition 14e.
- R. De. (2018). MIS Managing Information Systems in Business, Government and Society. Publisher: Wiley. Second Edition.
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**Module 08: E-commerce : Digital Markets, Digital Goods**  
**Unique e-commerce business models**

# Differences between B2B and B2C e-commerce

- B2C transactions are ad-hoc in nature, with one seller, selling to customers in a single transaction; B2B involves many buyers and sellers who establish long-term purchasing contracts.
- B2C transactions are of low value vis-à-vis B2B transactions.
- The delivery schedule and timing of goods are critical and require high degree of commitment in B2B, since they tie into organisational supply-chains.
- B2B do not have fixed prices and may involve auctions.

# Auctions

- Websites (usually C2C) that allow sellers and buyers to meet over the Internet.
- Pricing is generally through bidding, where the highest bidder wins.
- Usually C2C companies engage in auctions, example: eBay.
- After the auction buyers and sellers rate each other.
- Auction sites are subject to strong network effects.



# Crowdsourcing/Crowdfunding

- A disruptive business model!
- Advantages:
  - Market validation
  - Consumer Feedback
  - Goal attainment
- Disadvantages:
  - You pay a certain portion of your raise to the platform
  - Many projects fail due to difficulty in attaining a set goal
- Example: Kickstarter



<https://www.youtube.com/watch?v=-38uPkyH9vI>

# Online shopping mall/store builder

- Offers the products of all registered sellers in one place
- Web store builder allows sellers to have their own custom online store
- All listings are "fixed price" and buyers can add products from several sellers into their shopping cart and buy them in one single order
- Logistics and distribution provided by the mall provider
- Example: eCrater, Shopgo, ezstore, Shopify, Rakuten



# The Coupon Business

Deal-of-the-day website that features discounted gift certificates usable at local or national companies

- If a certain number of people sign up for the offer, then the deal becomes available to all
- Helps merchants build a loyal customer base
- Focuses on group unity
- Larger the minimum threshold, larger the discount

## **Revenue Model:**

Portion of the amount paid by the customer

Example: Groupon; Nearbuy



# Is the coupon business model sustainable?



- Long term goals of sellers may not succeed
- Servicing huge number of customers if a deal is very attractive
- Threat from merchant companies that have upper hand in any deal
- Threat from larger companies with huge user base

# Online Staffing Platform/Freelance marketplace

Online marketplace in which independent professionals and their clients can establish and fulfill work arrangements.

## Clients

- Allows businesses to post jobs, search for freelance professionals, and solicit proposals.
- Evaluate contracts and communicate

## Freelancers

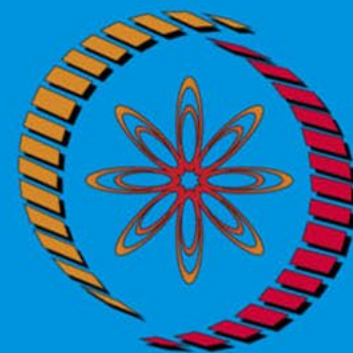
- Search jobs
- Post a profile displaying past jobs and feedback, a portfolio, and specific skill and educational-background information.
- Examples: Elance; oDesk (video)

## Online Staffing Platform/Freelance marketplace (contd..)

- **Online Staffing** — *“A type of **Talent Exchange** consisting of an online platform where contingent workers, contractors, freelancers can offer their skills and services for limited projects or even on-going assignments and where organizations and individuals can post their requirements or put tasks/projects out to bid”.*
- **Revenue Model** – Membership fees or marking-up the billings of the contractors/freelancers by 5-15%
- [https://www.youtube.com/watch?v=xbjkIE\\_CQI8](https://www.youtube.com/watch?v=xbjkIE_CQI8)

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Social Commerce & M-commerce**

# Social Commerce

- Social Commerce is based on the idea of digital **social graphs**.
- Digital social graph is a mapping of all significant online social relationships.
- In an inter-connected social network, the products and services you buy will influence the decisions of your friends, and their decisions will in turn influence you.
- Marketers should take advantage of the fact that people are enmeshed in social networks, share interests and values and communicate and influence one another.



# Social Commerce



- Online communities are also ideal venues to employ viral marketing techniques.
- Viral marketing in an online community spreads at the speed of light and goes much faster geographically than a small network of friends.
- “The wisdom of the crowd” is often used by companies to source advice, funds, ideas from users on social media. Examples: Kickstarter, Milaap, etc.

# Features of Social Commerce

- **Newsfeed:** A stream of notifications from friends and advertisers that social users find on their home pages.
- **Timelines:** A stream of photos and events in the past that create a personal history for users, one that can be shared with friends.
- **Social sign-on:** Web sites allow users to sign into their sites through their social network pages on Facebook or another social site. This allows Web sites to receive valuable social profile information from Facebook and use it in their own marketing efforts.

# Features of Social Commerce (contd...)

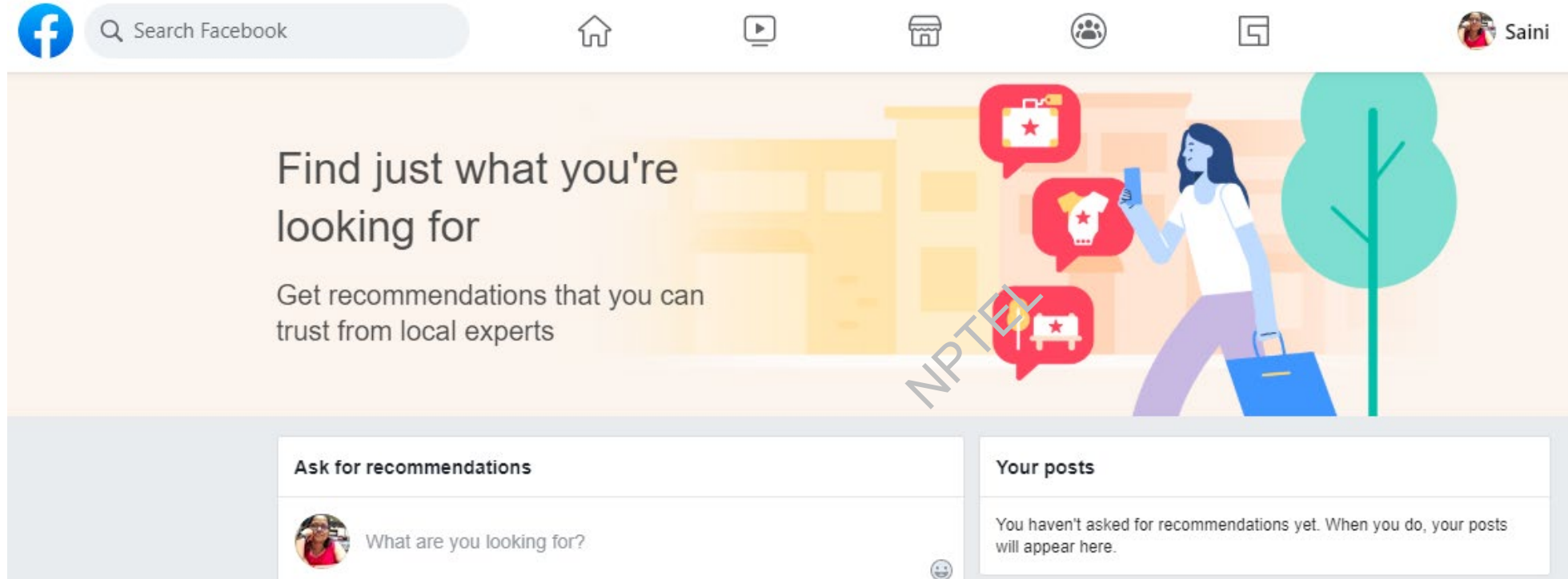
- **Collaborative shopping:** Creating an environment where consumers can share their shopping experiences with one another by viewing products, chatting, or texting. Friends can chat online about brands, products, and services.
- **Network notification:** Creating an environment where consumers can share their approval (or disapproval) of products, services, or content, or share their geo-location, perhaps a restaurant or club, with friends.



## Features of Social Commerce (contd...)

- **Social search (recommendations):** Enabling an environment where consumers can ask their friends for advice on purchases of products, services, and content. While Google can help you find things, social search can help you evaluate the quality of things by listening to the evaluations of your friends, or their friends. For instance, Amazon's social recommender system can use your Facebook social profile to recommend products.

# Facebook Recommendations



# Google Social Search

Top Social Networks Search Results Dashboard

Aarogya Setu

Search



Facebook

Web

Image

About 276,000 results (0.23 seconds)

Sort by:

Relevance

Download the **Aarogya Setu** App to... - MyGov Corona Hub | Facebook  
<https://www.facebook.com/...aarogya-setu.../2880119372102233/>



Download the **Aarogya Setu** App to strengthen our fight against COVID-19. The App is available in 11 languages. #IndiaFightsCorona में सुरक्षित। हम...



Twitter

Web

Image

About 120,000 results (0.26 seconds)

Sort by:

Relevance

**Aarogya Setu** (@SetuAarogya) | Twitter

<https://twitter.com/setuaarogya>



The latest Tweets from **Aarogya Setu** (@SetuAarogya). Go!s mobile application for contact tracing & dissemination of medical advisories to contain spread of ...



Instagram

Web

Image

About 809 results (0.19 seconds)

Sort by:

Relevance

TechoGhetto | Tech News on Instagram: "**Aarogya Setu** is a mobile ...

[https://www.instagram.com/p/B\\_aG7Ljp3Sh/](https://www.instagram.com/p/B_aG7Ljp3Sh/)  
25 Apr 2020 ... techoghetto **Aarogya Setu** is a mobile app developed by the ministry of electronics and IT India, to help citizens identify their risk... more.

**Aarogya Setu**

# Mobile Commerce

- <https://www.youtube.com/watch?v=Fdt5rRgimao> (till 1m59secs)
- Mobile commerce is the fastest growing form of e-commerce.
- Mobile commerce applications have taken off for services that are time-critical, that appeal to people on the move, or that accomplish a task more efficiently than other methods.
- The main areas of growth in m-commerce are retail sales and sales of digital content such as, music, TV shows and movies.





## Mobile Commerce (contd..)

- Mobile commerce leverages security and ease of payments on the pervasive mobiles, supporting innovative payment solutions through mobiles.
- Benefits include the ability to make payments without the use of a computer or access to Internet and without a credit card.
- Mobile payment services are similar to credit card transactions, in that the merchant must have an account with the service.

# Location-based Services and Applications

- A **geosocial service** can tell you where your friends are meeting. Example: Foursquare <https://www.youtube.com/watch?v=rq62BOcQde8>
- A **geoadvertising service** is the practice of delivering ads based on geographic location of the targeted population. <https://www.youtube.com/watch?v=98K-G8zdbVk>
- A **geoinformation service** can tell you the price of a house you are looking for or about special exhibits at a museum you are passing by. Example: Wikitude.me
- The foundation for mobile commerce is the **Global Positioning System (GPS)** enabled map services available on smartphones.

# The way forward....

- <https://www.youtube.com/watch?v=hj14BD-Uyvs>

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