

# Management Information Systems

## MIS 310

Larisa Cherkasov, MBA

Martin V. Smith School of Business and Economics

CSU Channel Islands

Email: [Larisa.Cherkasov@csuci.edu](mailto:Larisa.Cherkasov@csuci.edu)

# Web 2.0, Social Media and Internet Marketing

# Web 2.0 Defined

---



- Web 2.0: Internet services that foster collaboration and information sharing
  - Collaboration and information sharing online via social media, blogging and Web-based communities.
  - Interactive experience between users and Web publishers
  - Anyone can contribute, regardless of their technical knowledge.

# WEB 1.0 AND WEB 2.0

## WEB 1.0

1991 to 2004

Domain name speculation  
Publishing  
Content management systems  
Directories (taxonomy)  
Britannica Online, Encarta  
Personal websites  
Ofoto  
Instant messaging, SMS  
Monster.com  
RealNetworks  
Yellowpages.com  
Travelocity  
Vonage  
Catalogs  
Expedia, Orbitz

## WEB 2.0

Search engine optimization and fans  
Participation  
Wikis  
Tagging (“folksonomy”)  
Wikipedia  
Blogging, Status updates, Link Sharing  
Instagram, Flickr, Facebook, Twitter,  
Facebook, SnapChat, WhatsApp  
LinkedIn  
YouTube  
Yelp  
TripAdvisor  
Skype  
Pinterest  
Airbnb, Uber, RelayRides

# Web 2.0 And Traditional Processing



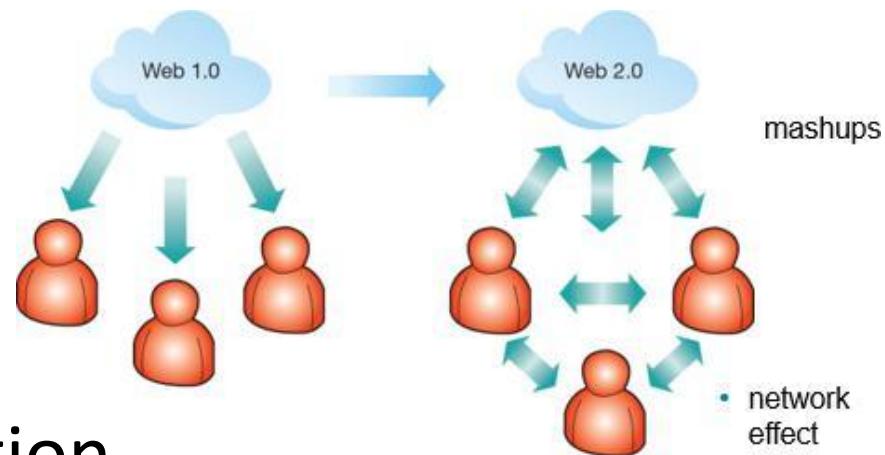
Web 2.0 Processing	Traditional Processing
Major winners: Google, Amazon.com, eBay	Major winners: Microsoft, Oracle, SAP
Software as a (free) service	Software as product
Frequent releases of thin-client applications	Infrequent, controlled releases
Business model relies on advertising or other revenue-from-use	Business model relies on sale of software licenses
Viral marketing	Extensive advertising
Product value increases with use and users	Product value fixed
Organic interfaces, mashups encouraged	Controlled, fixed interface
Participation	Publishing
Some rights reserved	All rights reserved

- Participation and Ownership Differences
  - Traditional sites are about publishing; Web 2.0 is about participation
  - Traditional vendors and Web sites lock down all the legal rights. Web 2.0 locks down only some rights

# Key Characteristics of Web 2.0



- Evolving Web Capabilities
  - Shift a Web user's role from a passive consumer of content to its creator
    - user generated content
- Evolving Social Interaction
  - Change how people interact and enable social media
    - Online information at our fingertips
    - Personal expression available 24/7



# Characteristics of Web 2.0

- Network Effect
  - The value of a network increases with the number of other users.
- Organic User Interfaces
  - Dynamic user interface derived from different sources
- Mashups
  - Output from two or more Web sites is combined into a single user experience
  - Possible by using Application Programming Interfaces (API)
    - APIs is a set of ways (protocols) other third-party programmers can access the data and functionality of a web service.
  - Trending web development mashups include
    - AI-driven personalization and design,
    - Progressive Web Apps (PWAs) integrating with content,
    - API-first design connecting diverse services,
    - Augmented and Virtual Reality (AR/VR)\*\* experiences,
    - AI-powered coding tools like GitHub Copilot.

Trendsmap  
Top 5 Web Mashups

# Web 2.0: Shifting Perspectives of Social Interaction

---

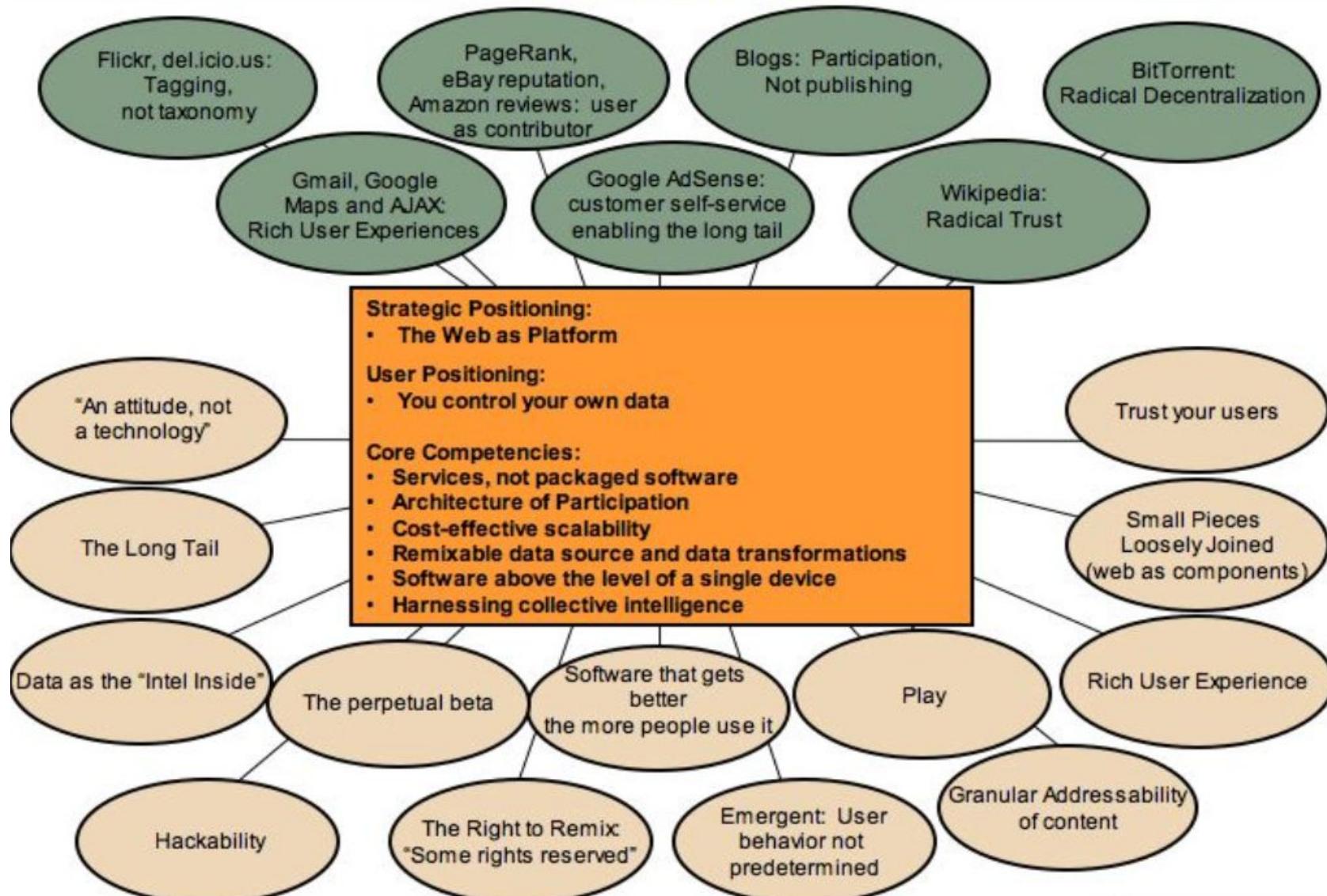
- Web experience becomes both more individual and more interactive

Web 1.0	Web 2.0
Me	Me and You
Read	Read and write
Connect ideas	Connect ideas and people
Search	Receive and give recommendations to friends and others
Find	Share
Techies rule	Users rule
Organizations	Individuals

# The Web As Platform



## Web 2.0 Meme Map



# Web 2.0: Design Patterns

---



- The Long Tail
  - Leveraging through customer self-service and algorithmic data management
- Data is the Next Intel Inside
  - Owning a unique, hard-to-recreate source of data
- Users Add Value
  - Trusting users as co-developers and using wisdom of crowds
- Network Effects by Default
  - Aggregating user data as a side-effect of their use of the application.
- Some Rights Reserved
  - Designing for "hackability" and "remixability."

# Web 2.0: Design Patterns



- The Perpetual Beta
  - Adding new features on a regular basis as part of the normal user experience.
- Cooperate, Don't Control
  - Offering web services interfaces and content syndication, and re-using the data services of others
- Services, not packaged software
  - Cost-effective scalability
- Software Above the Level of a Single Device
  - Integrating services across handheld devices, PCs, and internet servers

# Review Questions

---

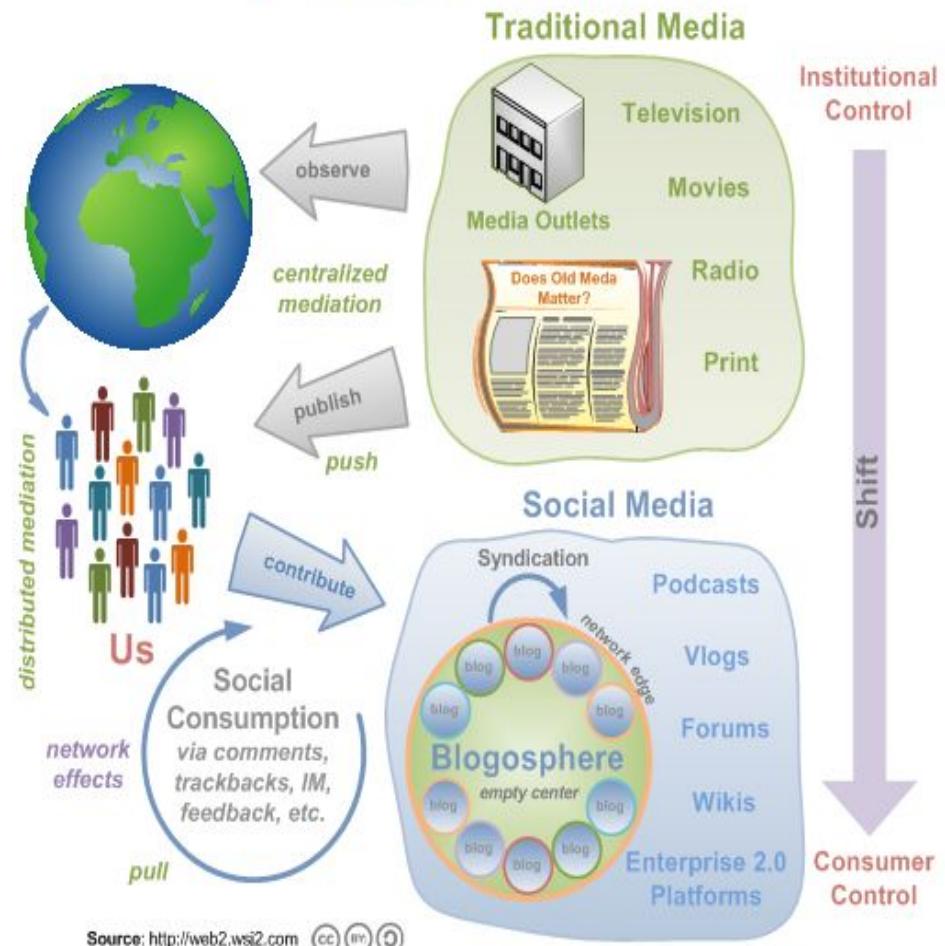
- Give at least 3 examples of differences between Web 1.0 and Web 2.0?
- What are the two key characteristic of Web 2.0?
- Suggest at least 3 ways to convert the static html site into Web 2.0 site.
  - [Bill Smith](#)
- What interface lets developers write code that posts data to and retrieves data from the other web sites?  
Provide an example

# Social Media: Defined



- **Social media:** Technologies that support the creation of user-generated content, content editing, commenting, curation, and sharing.
  - Blogs, wikis, social networks, Twitter, and photo and video sharing sites.

## The Emergence and Rise of Mass Social Media



# Social Media: Defined

## SOCIAL MEowDIA EXPLAINED



I LIKE  
MY CAT



I'M PLAYING  
WITH MY  
CAT



WATCH THIS  
VIDEO OF  
MY CAT



I'M VERY  
SKILLED  
AT TRAINING  
CATS



HERE'S A  
HIPSTER  
PICTURE  
OF MY CAT



HERE IS  
HOW TO  
TRAIN YOUR  
CAT TO  
DANCE



I FREAKIN'  
HATE THIS  
CAT FOOD



I WORK  
FOR GOOGLE  
AND I HAVE  
A CAT



I AM  
LISTENING  
TO THE SONG  
"SOFT KITTY"  
THIS IS  
WHERE I  
GOT MY  
CAT HOODIE



AVALAUNCH<sup>TM</sup>  
MEDIA

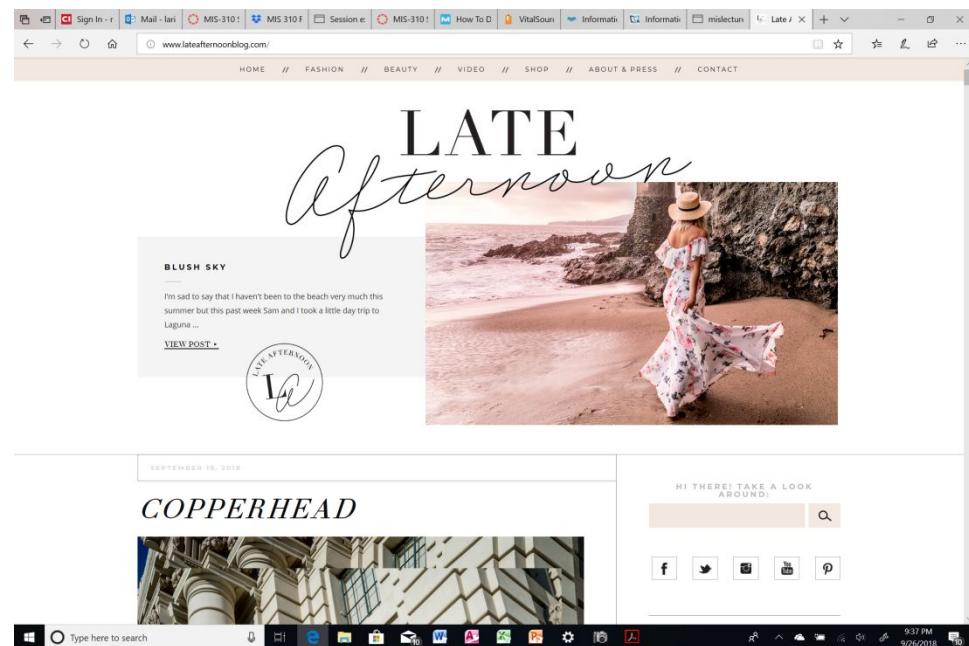
# Social Media: Enhancing Communication



- Blogs

- Online journal entries usually presented in a reverse chronological order

- Immediate and unfiltered publication
  - Ease of use
  - Comment threads
  - Reverse chronology
  - Persistence
  - Searchability
  - Tags.



# Social Media: Enhancing Communication



## • Microblogging

- Short-message blogging, made through a mobile device
  - X (Twitter): The standard limit is 280 characters, though subscribers may have access to even larger limits.
  - Hash tags: Keywords are preceded by the # character
    - To indicate the topic and relate the tweet to other topic

### — Firms leverage X for:

- Real-time promotion
- Customer response, engagement, and support
- Gathering feedback and up-to-date information
- Time-sensitive communication



## • Visual content sharing

- Publishing photos and videos online and sharing them with others
  - Instagram, YouTube

## • Instant Messaging

- Enables multiple participants to have conversations

# Social Media: Enhancing Cooperation

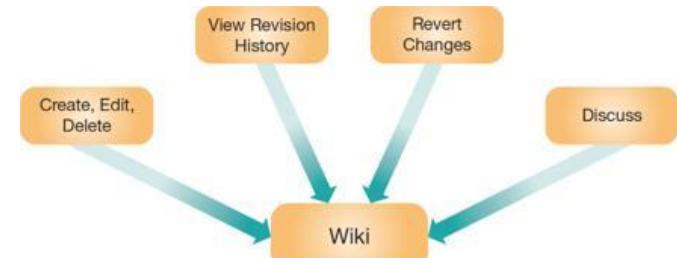


- Media Sharing
    - Sharing of user-generated content
    - Via Flickr, Instagram, Vimeo, YouTube, SlideShare
    - Webcasting, podcasting
  - Tagging
    - Metadata: data about data
    - Manually adding metadata to content
  - Social Bookmarking
    - Share interesting content and to create categorization systems
      - Reddit, Pinterest

website updates  
wide online people  
distribution offline videos  
world mass status connection interaction  
audio mouth comments marketing  
internet advertising technology  
fun communication

# Social Media: Enhancing Collaboration

- Cloud-Based Collaboration Tools
- Content Management Systems
  - Allow multiple users to coordinate working on documents
    - WordPress, Drupal
- Open Source Software
  - Created, maintained, and updated by thousands of volunteers located all over the world
    - Firefox, Linux, Apache Open Office
- Wikis
  - Website allowing people to create, edit, delete content or discuss about content
    - Wikipedia
- Crowdsourcing
  - Way to reduce costs by using the expertise of the crowds
    - Amazon Mechanical Turk



# Social Networks: Enhancing Connection



- **Social Networks:** Social online communities where individuals meet, communicate, and collaborate
  - One of the most popular uses of the Internet
  - Facebook has 2.8 billion monthly active users
- Key Features
  - Detailed personal profiles
  - Affiliations with groups, individuals , with p and other organizations
  - Private messaging and public discussions
  - Media sharing
  - Discovery-fueling feeds of recent activity among members
  - Targeted, interest based advertising



# Social Networks: Enhancing Connection

---



- Social networks have become organizational productivity tools.
- Firms implement their own, internal social network platforms
  - More secure and tailored to firm needs.
  - Replacing the traditional employee directory.
- Firms are setting up social networks for customer engagement
  - Mining these sites for customer ideas, innovation, and feedback.

# Internet Marketing: Definition and Evolution

---

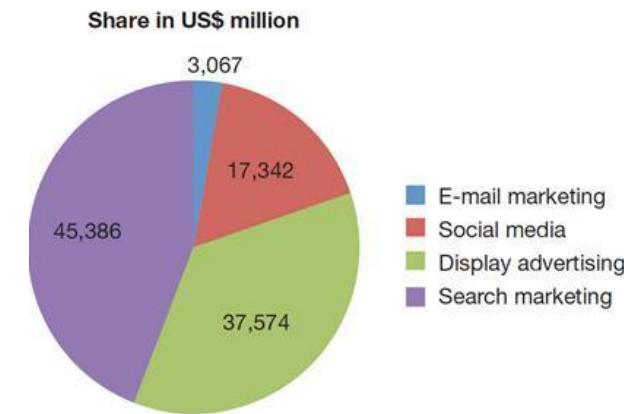


- **Internet marketing:** The process of promoting a business or brand and its products or services over the internet using tools that help drive traffic, leads, and sales.
- Evolution
  - Directory Services to Search Engines
  - Submission services to Search Engine Optimization services
  - Double Click (Banner Ads) to Ad Sense & Google Ads
  - Websites to social networks
  - Online shopping to online research

# Internet Marketing: Key Strategies



- Search Marketing
  - Search engine optimization (**SEO**)
    - No cost per click
  - Search engine marketing (**SEM**)
    - Cost per click
- Social Media Marketing (**SMM**)
  - Words of mouth marketing (free)
  - Ads on social network Websites
- Display Ads
- E-mail Marketing
- Mobile Marketing



Source: Based on VanBoskirk, S. (2014, November 18). *US Digital Marketing Forecast, 2014 to 2019*. Cambridge, MA: Forrester Research.

# Internet Marketing: Search Engine Optimization



- SEO is the practice of increasing both the quality and quantity of website traffic, as well as exposure to your brand, through non-paid (Organic) search engine results.

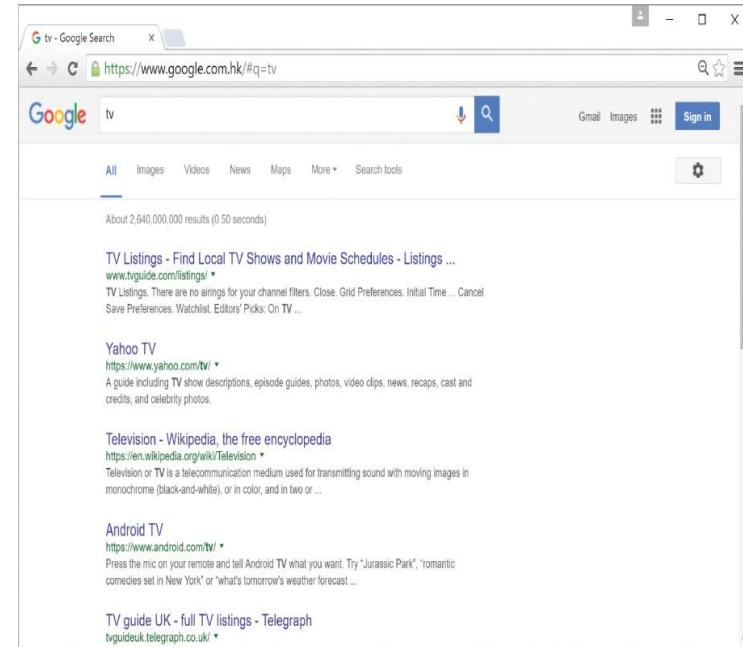
## — Organic search:

- Naturally generated
- Not influenced by commercial relationships between an organization and a search provider
- Appear more credible to savvy searchers
- Receive more clicks than paid advertisements

## — Hard to influence

[SEO 101](#)

[SEO for startups in under 10 minutes](#)



# Internet Marketing: Search Engine Optimization

---

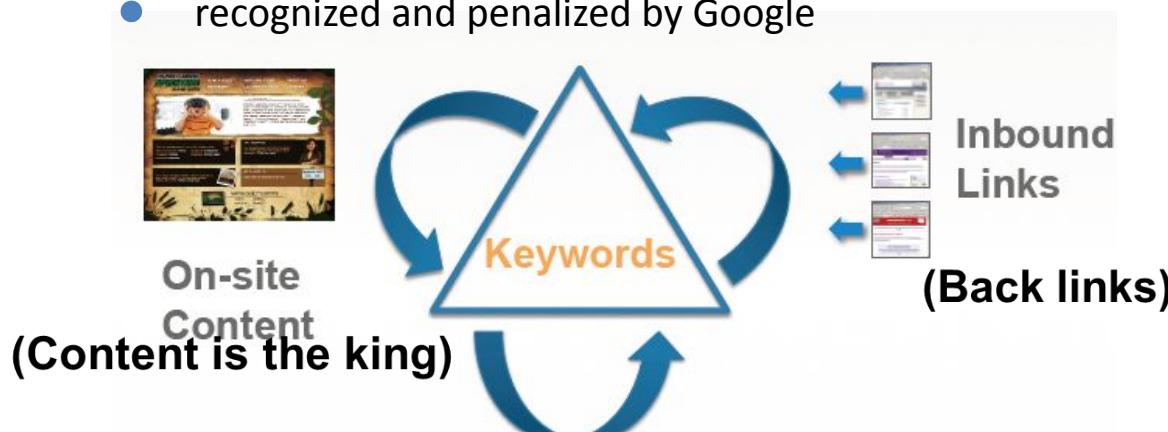


- How do search engines work?
  - Crawl
    - Scour the Internet for content.
      - regardless of the format, content is discovered by links.
  - Index
    - Store and organize the content found during the crawling process.
      - a massive database of discovered URLs
  - Rank
    - Results are ordered by most relevant to least relevant to a searcher's query.
      - the higher a website is ranked, the more relevant the search engine believes that site is to the query.

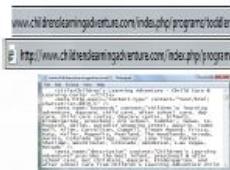
# Internet Marketing: Search Engine Optimization



- Techniques include
  - Having other pages link to the page
  - Keeping content well-structured and updated
  - Including keywords
    - Black hat SEO tactics like stuffing pages with keywords rather than quality content
      - recognized and penalized by Google



## Keyword Research



## On-site Structure

### (Meta tags, etc.)

# Internet Marketing: Search Engine Optimization



- Keyword Research

- Listen
  - The Internet is the world's largest focus group
- Analyze
  - Sort through billions of data points and pick out only the ones that matter to your business
- Take Action
  - Interpret data, turn it into insight and develop a strategy

# Internet Marketing: Search Engine Optimization

- Tallware Example



IS THIS A TV OR A TELEVISION?

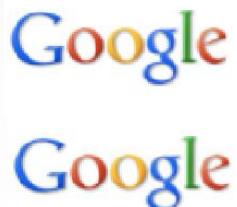


Does it Matter?

# Internet Marketing: Search Engine Optimization

- Tallware Example

WE LISTENED



WE ANALYZED & FOUND

Key Findings:

"TV" related keywords had a global monthly search volume of 277,000,000 on Google compared to only 13,600,000 for "Television" keywords

WE RECOMMENDED ACTIONS

Next Steps:

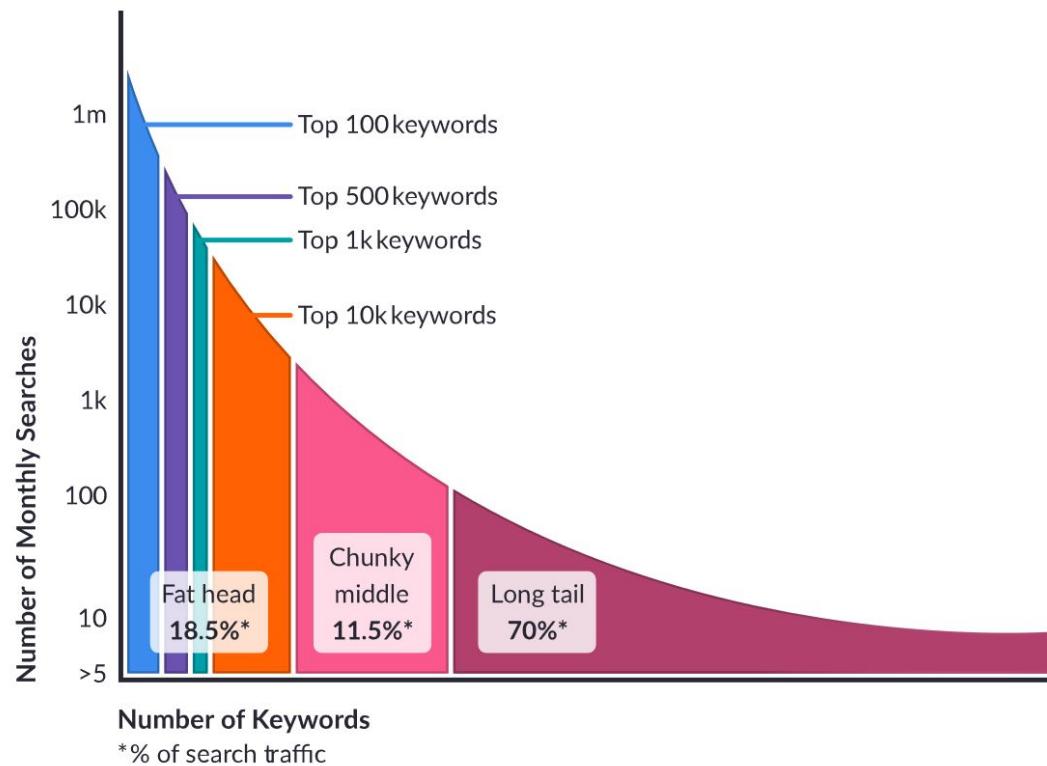
Switch website verbiage from Television to TV in greatly increase visibility on searches engines

Use TV instead of Television in promotional materials and online ads to ensure Sony is talking in the same language as the majority of consumers

# Internet Marketing: Search Engine Optimization



The Search Demand Curve



- Long tail keywords with lower search volume often convert better

[Keyword Research](#)

[SEO for startups in under 10 minutes](#)

# Internet Marketing: Search Engine Optimization

- Domains with the Most Organic (SEO) Traffic

Rank	Domain	SEO Clicks
1	apple.com	1.3B
2	merriam-webster.com	967M
3	homedepot.com	424M
4	seeklogo.com	316M
5	bestbuy.com	312M

<https://www.spyfu.com/outreach/domain-top-lists>

# Internet Marketing: Search Engine Marketing



- **SEM:** Promotion of websites by increasing their visibility in search engine results pages (SERPs) through paid advertising.

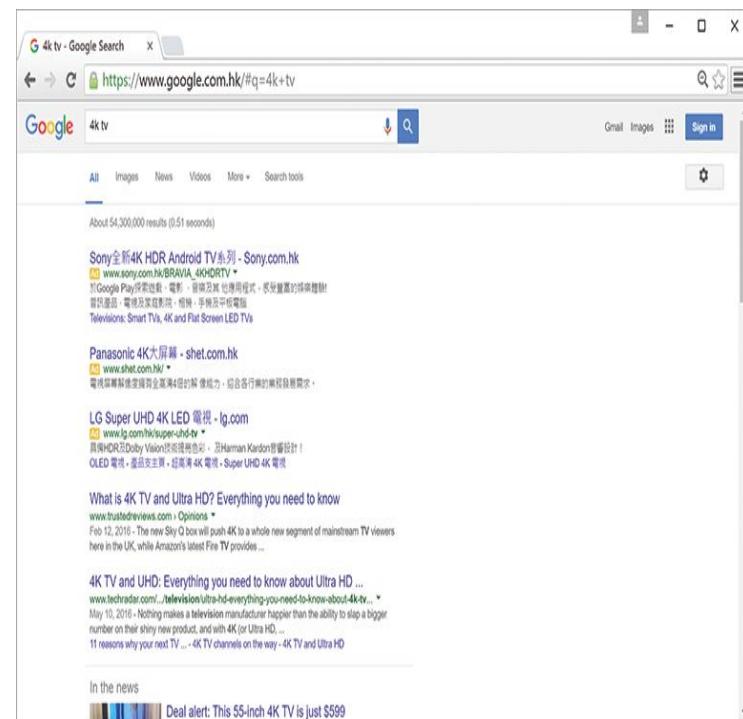
- Paid Search

- Paid Inclusion

- To elevate a page's position in the organic results after paying a fixed fee

- Google Ads

- Is paid on a pay-per-click basis
- Keyword bidding
- Ensures high-quality leads
  - Which keywords to buy?
  - Bidding strategy



[https://en.wikipedia.org/wiki/Search\\_engine\\_marketing](https://en.wikipedia.org/wiki/Search_engine_marketing)

# Internet Marketing: Search Engine Marketing

- The 20 Most Expensive Keywords in Google Ads



<https://www.wordstream.com/articles/most-expensive-keywords>

Keyword	Cost per Click (CPC)
Insurance	\$54.91
Loans	\$44.28
Mortgage	\$47.12
Attorney	\$47.07
Credit	\$36.06
Lawyer	\$42.51
Donate	\$42.02
Degree	\$40.61
Hosting	\$31.91
Claim	\$45.51
Conference Call	\$42.05
Trading	\$33.19
Software	\$35.29
Recovery	\$42.03
Transfer	\$29.86
Gas/Electricity	\$54.62
Classes	\$35.04
Rehab	\$33.59
Treatment	\$37.18
Cord Blood	\$27.80

# Internet Marketing: Search Engine Marketing

- Keywords with Highest Cost Per Click (CPC)

Rank	Term	CPC
1	florida mesothelioma lawyer	\$485
2	telephones small business	\$301
3	colorado car accident lawyers	\$287
4	las vegas auto accident lawyers	\$285
5	injury lawyer houston texas	\$284

<https://www.spyfu.com/outreach/keyword-top-lists>

# Internet Marketing: Search Engine Marketing

- Domains that Spend the Most on Adwords

Rank	Domain	Monthly Budget
1	consumersadvocate.org	\$11.9M
2	homedepot.com	\$6.21M
3	jcpenney.com	\$5.79M
4	expedia.com	\$5.75M
5	usautoinsurancenow.com	\$4.31M

<https://www.spyfu.com/outreach/domain-top-lists>

# Internet Marketing: Anatomy of SERP

- Search Engine Results Page (SERP) after searching “shoes online”

Search query: shoes online

About 133,000,000 results (0.17 seconds)

**Sponsored Links**

[www.Onlineshoes.com](#) 10% Off Regular Prices - Ends soon! Huge Selection. Free Shipping.  
Onlineshoes.com is rated ★★★★★ (809 reviews)

[Shoes Online at endless](#)  
endless.com free overnight shipping on **shoes!** free returns + 100% price guarantee  
Endless.com is rated ★★★★★ (65 reviews)

[Boots at Zappos](#)  
[www.Zappos.com](#) Men's and Women's Boots at Zappos. Receive Free Shipping Both Ways.  
Zappos.com is rated ★★★★★ (4 203 reviews)

**Organic Search**

['s Shoes at Onlineshoes.com FREE SHIPPING!](#) ☆  
Free Shipping & Exchanges, 365-Day Returns. Over 200+ of your favorite brands. Shoes, sandals, boots, clogs & more. Find casual **shoes**, running **shoes**, ...  
[Women's Shoes - Men's Shoes - Boots - Kids' Shoes](#)  
[www.onlineshoes.com/](#) - Cached - Similar

[Shoes, Clothing | Zappos.com Free Shipping](#) ☆  
Zappos.com was founded in 1999 with the goal of becoming the premiere destination for **online shoes**. Since then, we've become much more than just an **online** ...  
[Women's Shoes - Men's Shoes - Kids' Shoes - Clothing](#)  
[www.zappos.com/](#) - Cached - Similar - Add to iGoogle

[Women's shoes | Piperlime](#) ☆  
Piperlime women's **shoes** offer the latest styles and trends of the season. Find a stylish collection of **womens shoes** for every occasion when you shop ...  
[www.piperlime.com/products/womens-shoes.jsp](#) - Cached

**Sponsored links**

[Gilt Designer Shoe Sales](#)  
Luxurious Shoes & Designer Footwear Sales. Up to 70% Off!  
Sign Up Now.  
[www.Gilt.com](#)  
Gilt.com is rated ★★★★★

[Designer Shoes](#)  
Shop Designer Heels, Sandals, Sneakers, Dress **Shoes** & More!  
[www.BostonStore.com/shoes](#)  
California

[Discount Shoes Online](#)  
Save Up To 75% Off All Footwear. Official Site. Order Now & Save!  
[www.6PM.com/Shoes](#)  
6PM.com is rated ★★★★★

[Cheap Designer Shoes](#)  
Great finds at 70% off retail helps homeless New Yorkers w/ AIDS  
[www.ShopHousingWorks.com](#)  
ShopHousingWorks.com is rated ★★★★★

[Google Checkout](#)

**Shoes - 25% Off**

# Review Questions

---

- Name 2 search marketing strategies. What is main difference in terms of paying for these marketing?
- What is an organic search? Name at least 3 characteristics of organic search,
- Name 3 SEO techniques to influence organic search results?
- Explain what Search Engine Marketing is, using Google Ads as an example.

# Internet Marketing: Social Media Marketing



- **Social Media Marketing** is the use of social media platforms and websites to promote a product or service

- Paid Social

- Humanize the Brand
    - Build Relationship's
    - Support the Community

- Viral Marketing

- Users promoting content they find interesting or engaging to their friends
    - Driven by word-of-mouth or person-to-person communication
    - Uses the network effect to increase brand awareness
    - Can be a blessing or a nightmare



Example: United Breaks Guitars

# Internet Marketing: Display Ads, E-Mails, Mobile



- Display Ads
  - **Contextual Advertising:** Ads placed on a page are related to the content of that page (Google AdSense)
  - Variety of interactive features
  - Ability to accurately measure an ad's impact
- E-Mails Marketing
  - Low Costs
  - Effectiveness can be measured directly
- Mobile Marketing
  - Result of increase in mobile device use and growth in mobile commerce
  - Highly targeted
  - Innovative interactive ad formats
  - Low apps prices

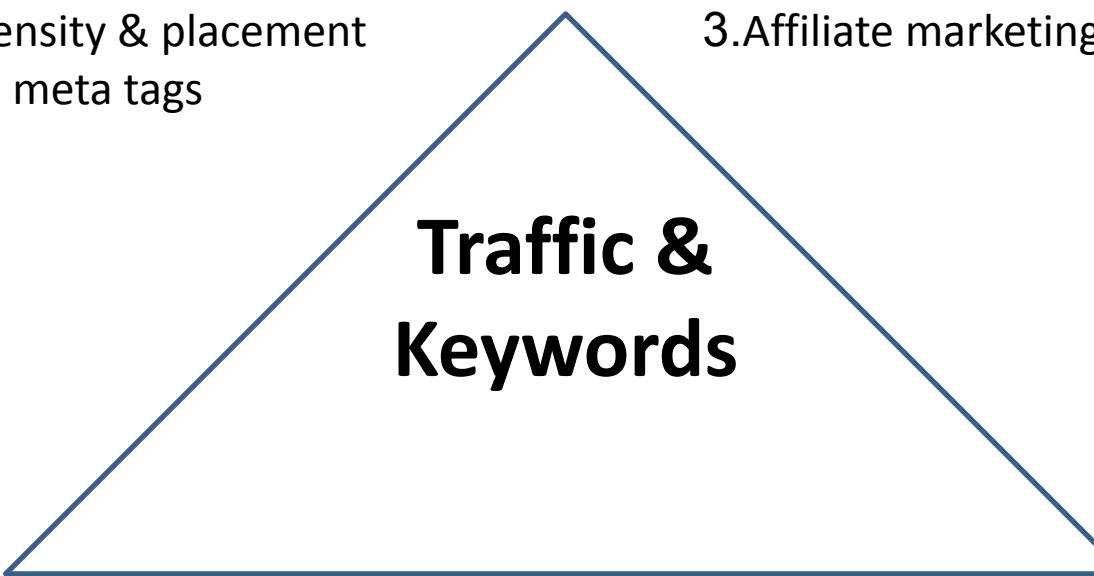
# Internet Marketing: Integrated Framework

## SEO

- 1.Improve organic search result
- 2.Site contents: Determine keywords to use, keywords density & placement
- 3.Site structures & meta tags
- 4.Inbound links

## On-Line Marketing

- 1.SEM: Bid for sponsored links
- 2.Pay for contextual ads (e.g., Ad Sense)
- 3.Affiliate marketing (Amazon)



Traffic &  
Keywords

## SMM

- 1.Build brands and **customer loyalty**
- 2.Monitor and use social networking sites
- 3.Use social bookmarking to increase website page ranks
- 4.Build quality backlinks to improve SERP positions

# Internet Marketing: Assessing Performance

---



- Web Analytics
  - Process of analyzing web surfers' behavior in order to improve website performance
- Click-Through Rate
  - Number of surfers who click on an ad divided by the number of times it was displayed
- Conversion Rate
  - Percentage of visitors who actually perform the marketer's desired action (making a purchase)
- Exit Rate
  - Percentage of visitors who leave the website after viewing that page
- Bounce Rate
  - Percentage of single-page visits

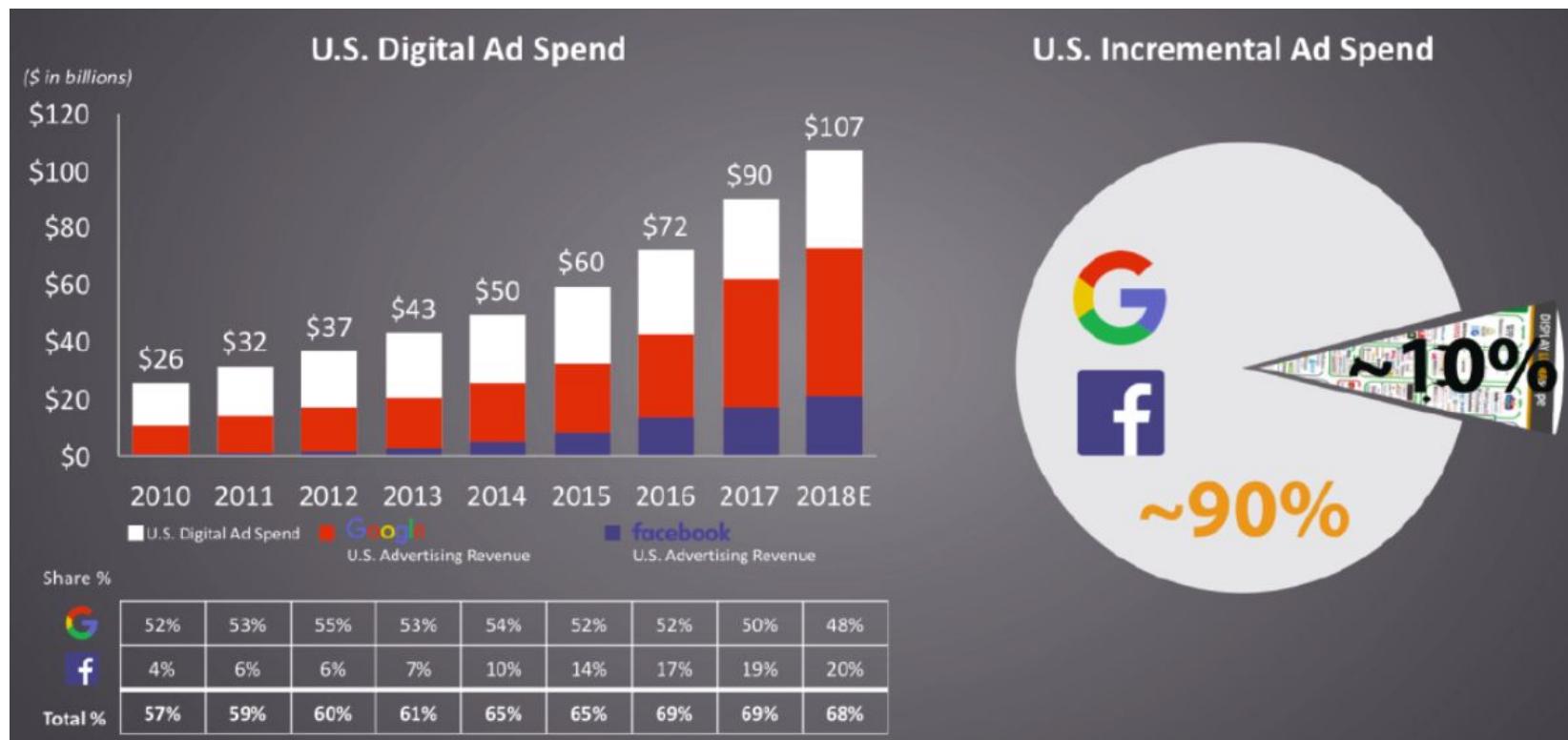
# Review Questions

---

- What is Paid Social? How is it used in marketing strategy?
- Explain the difference between Paid Social and Paid Search.
- Explain the difference between Click-Through Rate and Conversion Rate

# Internet Marketing: Duopoly

- Facebook and Google maintain over  $\frac{2}{3}$  of digital spend and almost all of the growth
  - Advantages:
    - Scale
    - 1st Party Data
    - Performance



# Web 3.0

- Web 3.0 is a decentralized internet experience built on blockchain technology that utilizes emerging technologies, like AI, semantic search, and virtual reality.
  - create an internet that's intelligent, user-controlled, and fair, where people own their data, digital identity, creations and experiences instead of giving it away to big platforms.
    - trustless
      - participants will be able to interact directly without going via a trusted intermediary
    - permissionless
      - each individual can access without any governing body's permission
    - move seamlessly between different digital worlds, or 'metaverses,' and experiences
    - use tokens to pay for goods and services or earn rewards for your contributions
    - AI technology, Machine Learning, and Blockchain provide users with smart applications
  - Examples:
    - *Cryptocurrencies* (cuts out banks as the middleman)
    - *Brave* (decentralized internet browser)
    - *Axie Infinity* (an online game with over two million monthly active users)
    - *OpenSea* (an online marketplace for NFTs (non-fungible token))

# The Difference Between Web 2.0 and Web 3.0

Web 2.0	Web 3.0
<b>Centralized</b> Application delivery, cloud services and platforms are governed and operated by centralized authorities.	<b>Decentralized</b> Edge computing, peer-to-peer and distributed consensus increasingly become the norm in Web 3.0.
<b>Fiat currency</b> Payments and transactions occur with government-issued currency such as \$USD.	<b>Cryptocurrency</b> Transactions can be funded with encrypted digital currencies such as Bitcoin and Ethereum.
<b>Cookies</b> Using cookies helps to track users and provide personalization.	<b>NFTs</b> Users can get unique tokens that are assigned value or provide some form of perk.
<b>CSS and Ajax</b> Web 2.0 is defined by layout technologies that provide more dynamic control than Web 1.0.	<b>AI</b> Smarter, autonomous technologies, including machine learning and AI, will define Web 3.0.
<b>Relational databases</b> Databases underpin the content and applications of Web 2.0.	<b>Blockchain</b> Web 3.0 makes use of blockchain immutable ledger technology.
<b>Social networks</b> Web 2.0 ushered in the era of social networking, including Facebook.	<b>Metaverse worlds</b> With Web 3.0, metaverse worlds will emerge to meld physical, virtual and augmented reality.

# Discussion Questions

---

- How will Web 3.0 change our lives?
  - What problems will it solve?  
vs.
  - What problems will it bring?

# Discussion Questions

---

- What problems will Web 3.0 solve?
- Is Web 3.0 more secure? Why or why not?
- What are the disadvantages of Web3?