

Commercio Elettronico

A.A. 2014-2015

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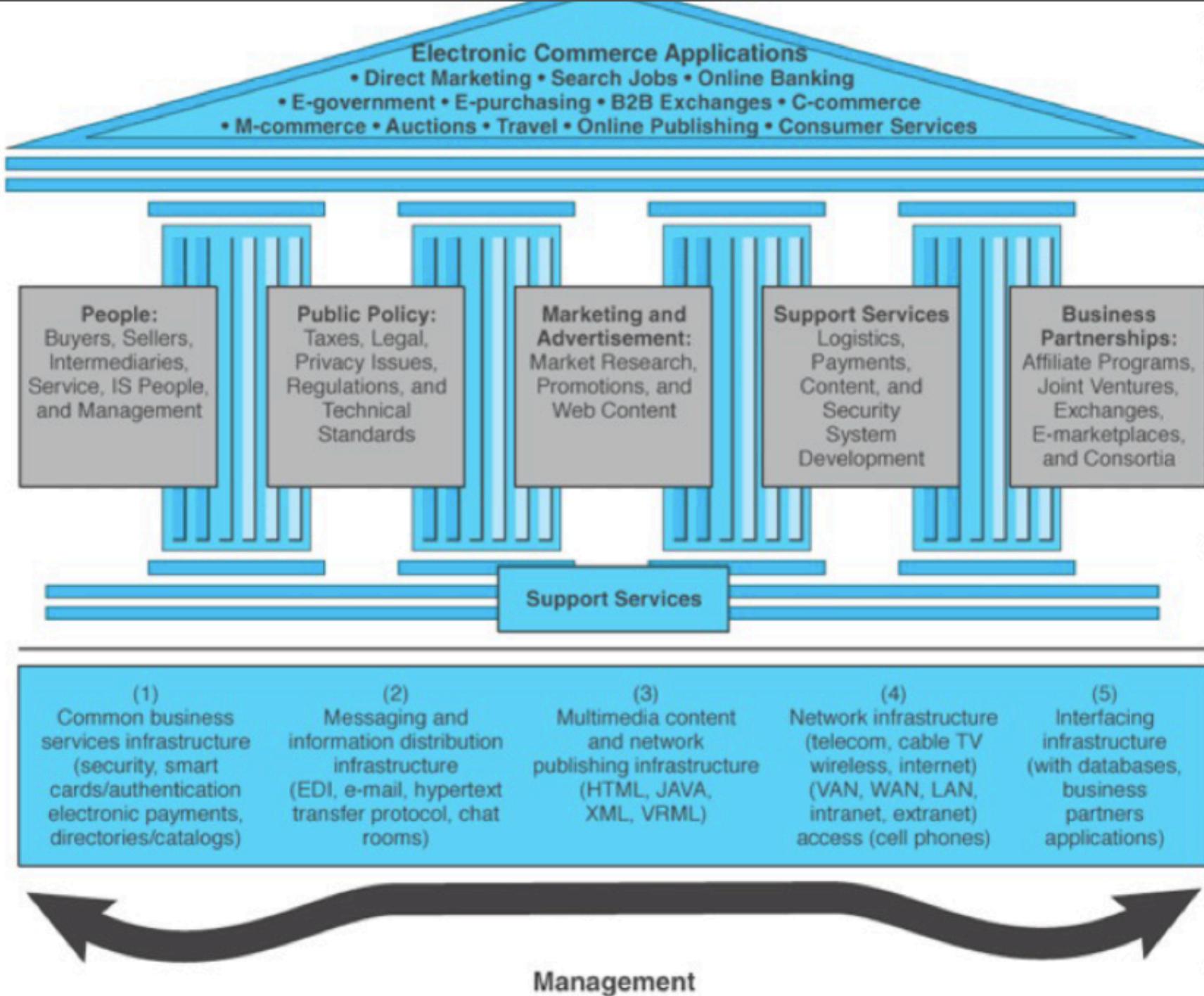
Docente

- Claudio Silvestri
silvestri@unive.it
- Ricevimento
Martedì dalle 10.00 alle 12.00

Calendario

- Martedì
14.00 – 15.30
Lab 5
- Giovedì
10.30 - 12.00
Aula A

COMMERCIO ELETTRONICO



Classificazione

Basata sulla natura delle transazioni e le relazioni tra partecipanti:

business-to-business (B2B): transazioni online tra aziende

business-to-consumer (B2C): transazioni online tra aziende e consumatori (a.k.a e-tailing: online retailing)

business-to-business-to-consumer (B2B2C): un'azienda fornisce prodotti o servizi ad aziende intermediarie che li forniscono ai propri clienti

consumer-to-business (C2B): persone vendono servizi o prodotti alle aziende

consumer-to-consumer (C2C): vendite tra utenti privati

Classificazione (2)

- business-to-employees (B2E)
- peer-to-peer (P2P)
- mobile commerce (m-commerce)
- location-based commerce (l-commerce)
- collaborative commerce (c-commerce)

Esempio: B2C

Chocolate Guide | Catalog & Email Signup
[Sign in]

Rewards Club | My Account 0 Items | Checkout
enter keyword or catalog item # Search ▾

Chocolate Collections & Treats | Bakery Shop | Gift Baskets & Towers | Seasonal Gifts | Gifts by Occasion | Business Gifts | Wedding & Party Favors | What's New

Sweeten Your Holidays!

Shop Now ▾

Free Standard Shipping on orders \$60 or more*
Enter code **MERRY** at checkout
or

\$5 Flat Rate Standard Shipping on orders \$25-\$59**
Enter code **HOLLY** at checkout

*per recipient, valid on orders \$60-300. Online only.
**per recipient, valid on orders \$25-50. Online only.

Give a Little Joy
Stocking Stuffers starting at \$3.99.
Shop Now ▾



Perfect Business Gifts
Volume discounts make them even more perfect.
Learn More ▾



Abundant Giving
Impress Friends & Family with a bountiful Gift Basket.
Shop Now ▾



Non sempre la classificazione è semplice... (1)

Amazon vende: libri, elettrodomestici e articoli per la casa, servizi di calcolo (EC2) e storage, ...

Agisce da intermediario per C2B (Amazon Turk)

Gestisce un market place

Si rivolge a:
privati
aziende

Non sempre la classificazione è semplice... (2)

Google:

ricerca, mail, docs/drive, news, ...

pubblicità

android

marketplace (Google Play)

cloud computing

Business Models

Il CE permette nuovi modelli di business

Business model: a method of doing business by which a company can generate revenue to sustain itself

[Weill and Vitale 2001] hanno proposto un insieme di otto modelli atomici combinabili per descrivere modelli più complessi

Modelli di business atomici

- Direct Marketing
- Intermediary
- Content Provider
- Full-service provider
- Shared infrastructure
- Value net integrator
- Virtual community
- Consolidator of services

Esempio:
Amazon

- Direct marketing
- Intermediary
- Virtual
community
- Content provider

Business model

- Composto da [McKay and Marshall 2004]:
 - Descrizione del cliente
 - Descrizione dei prodotti e servizi
 - Descrizione dei processi
 - Analisi delle risorse necessarie
 - Descrizione della catena di approvvigionamento
 - Previsioni di ricavi, costi, etc.

Value proposition

Il business model tipicamente include anche una value proposition

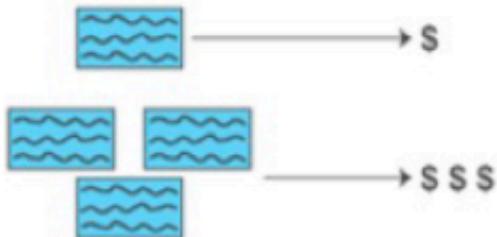
Describe i benefici (tangibili e non) derivanti dall'adozione del business model

Revenue model

Parte del business model:

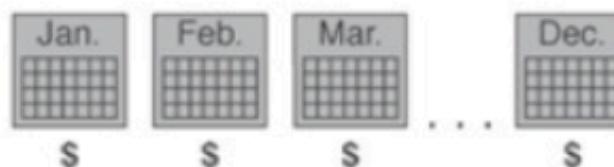
- Vendite
- Commissioni di vendita
- Abbonamenti
- Inserzioni pubblicitarie
- Commissioni di affiliazione
- Pay for play, pay for watch, licensing, ...

Transaction Fees Model



Commissions paid on
volume of transactions

Subscription Model



Fixed amounts are charged,
usually monthly

Advertisement Model



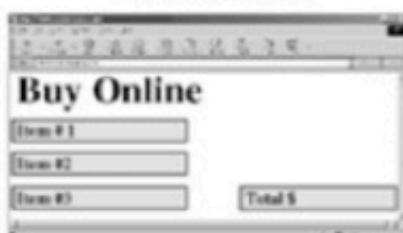
Payments from advertisers

Affiliate Model



Commissions for referring customers

Sales Model



Revenue from sales of goods or services

Alcuni modelli (e parti di)

Online direct marketing: selling products or services online

Electronic tendering system: (reverse auction): model in which a buyer requests would-be sellers to submit bids, and the lowest bidder wins

Name your own price: a model in which a buyer sets the price he or she is willing to pay and invites sellers to supply the good or service at that price

Find the best price: also known as a search engine model

Affiliate marketing: an arrangement whereby a marketing partner (a business, an organization, or even an individual) refers consumers to the selling company's Web site

Group purchasing: quantity purchasing that enables groups of purchasers to obtain a discount price on the products purchased

Alcuni modelli (2)

Online auctions: different types of auctions, usually a sequence of consecutive bids for various goods and services, the highest bid get the auctioned item

Product and service customization: creating or modifying items following the buyer's specifications

Viral marketing: word-of-mouth marketing in which customers promote a product or service to friends or other people

Others: marketplace exchanges, information brokers, bartering, deep discounting, membership, value-chain integrators, value-chain service providers, supply-chain improvers.

Il corso

Argomenti

- Commercio elettronico: tipologie
- Raccomandare articoli
- Motori di ricerca
- Suggerire query
- Pubblicità
- Web crawler
- Strumenti per l'analisi delle vendite

Laboratorio

- Motori di ricerca
- Web Crawling
- Generazione di raccomandazioni
- Completamento di query
- Analisi dei dati di vendita

Strumenti

- Python
- MongoDB

Modalità di esame

Progetto

+

Esame orale

Siti web e-commerce

Alcune caratteristiche tipiche

E-commerce web-sites



Hello. Sign in to get [personalised recommendations](#). New Customer? [Start here.](#)

Your Amazon.co.uk | [Deals of the Week](#) | [Gift Certificates](#) | [Gifts & Wish Lists](#)

[Shop All Departments](#)

Search

Electronics & Photo

canon eos 5D

Electronics & Computing

Brands

Bestsellers

Deals Of The Week

Camera & Photo

Audio, TV & Home The



Canon Digital SLR Camera EOS 5D Mark II

by [Canon](#)

[\(20 customer reviews\)](#) [More about this product](#)

RRP: £2,299.99

Price: **£1,699.00**

You Save: £600.99 (26%)

In stock.

Dispatched from and sold by [Calumet Photographic](#).

[23 new](#) from £1,699.00 [2 used](#) from £1,550.00

E-commerce web-sites

The screenshot shows the Amazon.co.uk homepage. At the top, there's a navigation bar with links for 'Hello' (Sign in), 'personalised recommendations', 'New Customer?', and 'Start here'. Below this are links for 'Your Amazon.co.uk', 'Deals of the Week', 'Gift Certificates', and 'Gifts & Wish Lists'. A prominent orange button on the left says 'Shop All Departments'. To its right is a search bar with the text 'Search Electronics & Photo' and a dropdown arrow. The search term 'canon eos 5D' is entered in the search bar. Below the search bar, there are links for 'Electronics & Computing', 'Brands', 'Bestsellers', and 'Deals Of The Week'. On the left side of the main content area, there's a large image of a Canon EOS 5D camera. In the center, there's a product listing for the 'Canon Digit' (likely a typo for 'Digital') camera, made by Canon. It has a 5-star rating and 20 reviews. The original price was £2,299, but it's now priced at £1,699, with a saving of £600. The status is 'In stock.' A purple arrow points from the text 'Query Suggestions' to a list of related products displayed on the right side of the page.

Hello. Sign in to get personalised recommendations. New Customer? [Start here.](#)

Your Amazon.co.uk | Deals of the Week | Gift Certificates | Gifts & Wish Lists

Shop All Departments

Search Electronics & Photo

canon eos 5D

Electronics & Computing

Brands

Bestsellers

Deals Of The Week

canon eos 5d mark ii

canon eos 5d mark ii body

canon eos 5d mkii

canon eos 5d mark ii with 24-105mm lens kit

canon eos 5d mark 2

canon eos 5d body

canon eos 5d mk2

canon eos 5d mark i

canon eos 5d mk ii body

canon eos 5d mark 11

In stock.

Query Suggestions

E-commerce web-sites

Frequently Bought Together



Total RRP: £2,559.97

Price For All Three: £1,941.48



Add all three to Basket

These items are dispatched from and

- This item:** Canon Digital SLR Camera EOS 5D Mark II
- [Canon Battery Pack Lp-e6 For The Eos 5d Mk II](#)
- [Canon Battery Grip BG-E6 for EOS 5D Mk II](#)

Companion items

E-commerce web-sites

Comparison with other items

Customers Who Viewed This Item Also Viewed



[Angels & Demons](#)

(280)

Amazon Instant Video

\$9.99 to buy



[National Treasure](#)

(655)

Amazon Instant Video

\$1.99 to rent



[Secrets](#)

(337)

Amazon Instant Video

\$1.99 to rent

\$9.99 to buy



E-commerce web-sites

Customers Viewing This Page May Be Interested in These Sponsored Links ([What is this?](#))

- [Canon5D mkII £1599 incVat](#) 

www.HdewCameras.com/Canon - with 3 Year guarantee included In Stock. Call On 0208 669 5668

- [Canon Cameras Mega Sale](#) 

Canon-Digital-Camera.ShopCompare.eu - **Canon Cameras** Clearance Sale. Free Next Day Delivery on **Canon!**

- [Where is the Cheapest?](#) 

Reevoo.com/Canon_EOS_5D - Price Check: **Canon EOS 5D** Read the reviews and compare prices

Sponsored Links

E-commerce web-sites

Buy This Product and Related Accessories



Canon Digital SLR Camera EOS 5D Mark II

£1,699.00

Select this item

Browse by category :

- [Lenses & Filters](#) >
- [Memory Cards](#) >
- [Bags & Cases](#) >
- [Tripods & Stands](#) >

[**>> See all accessories**](#)

Lenses & Filters



[Sigma EM-140 DG EO-ETTL Macro Flash For Canon SLR Cameras](#)

Usually dispatched within 4 to 5 days from [Purelygadgets](#).

£274.28

Select this item

Memory Cards



[SanDisk 4GB SDHC Secure Digital Card](#)

In stock from [IJT Direct](#).

£6.65

Select this item



[SanDisk Extreme III SDHC 4GB Card](#)

In stock

£13.22

Select this item

Bags & Cases



[Kata GDC R-103 Backpack For DSLR Cameras With Laptop Compartment](#)

In stock from [CameraKing UK](#).

£125.15

Select this item

Related Products (by category)

E-commerce web-sites

Customers Who Bought This Item Also Bought



[Canon Battery Pack LP-E6 For The Eos 5d Mk II](#)

★★★★★ (18) £57.49



[Canon Battery Grip BG-E6 for EOS 5D Mk II](#)

★★★★★ (5) £184.99



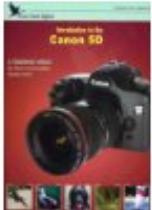
[Canon EF 24-70mm f/2.8 L USM Lens](#)

★★★★★ (12) £985.25

Additional suggestions

Looking for "canon eos 5d" Products?

Other customers suggested these items:



[Blue Crane Canon 5D SLR Camera Training DVD \[DVD\]](#)

★★★★★ (1) £22.99

Suggested by 2 customers



[Sandisk 16GB Extreme IV Compact Flash CF Card - Retail Pack](#)

★★★★★ (3) £92.94

Suggested by 1 customer

E-commerce web-sites

Tags Customers Associate with This Product (What's this?)

Click on a tag to find related items, discussions, and people.

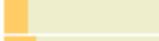
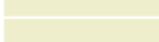
[canon](#) (12)
[dslr](#) (11)
[photography](#) (8)
[camera raw](#) (4)

[digital](#) (4)
[full hd](#) (4)
[camera](#) (3)
[1080p](#) (2)

Your tags: [Add your first tag](#)

Customer Reviews

20 Reviews

5 star:	 (13)
4 star:	 (3)
3 star:	 (4)
2 star:	 (0)
1 star:	 (0)

Average Customer Review
 ([20 customer reviews](#))

User generated content:
Tags and reviews

E-commerce web-sites

Your Recent History (What's this?)

Recently Viewed Items



[Software Engineering: Update
\(International... by Ian Sommerville](#)

Continue Shopping: Customers who bought items in your Recent History also bought



[Canon Battery Pack LP-E6
For The EOS 5D Mk II](#)
 (18) £57.49
[Fix this recommendation](#)



[Canon Battery Grip BG-E6
for EOS 5D Mk II](#)
 (5) £184.99
[Fix this recommendation](#)

Recent Searches

[canon eos 5d](#) (All Departments), [software engineering](#) (Books), [uk](#)

Yet another set of suggestions based on MY history

Tricks and cheats

Search All Departments toshiba portege

International | Gift Certificates | Deals Of The Week | Amazon.co.uk MasterCard

"toshiba portege"

Related Searches: [toshiba portege a600](#), [toshiba portege r500](#), [toshiba portege r600](#).

Select Results from All Departments

1.  **Toshiba Portege R600-108 Core 2 Duo SU9400 12.1 inch Not 128GB Solid State Drive, WXGA, TFT, LAN, WLAN, BT Vista E**
Buy new: £1,838.85 **£1,769.19**
2 new from £1,300.00
Usually dispatched within 1 to 3 months
Eligible for **FREE** Super Saver Delivery.
Electronics & Photo: See all 1,838 items

Tricks and cheats

Search All Departments toshiba portege

International | Gift Certificates | Deals Of The Week | Amazon.co.uk MasterCard

"toshiba portege"

SPONSORED LINKS ([What is this?](#))

- [**Toshiba Portege Laptops** !\[\]\(5db4fb29f2373c302d58227b1e487edb_img.jpg\)](#)
uk.computers.toshiba-europe.com - Affordable **Toshiba** laptops with the power & specs your business needs.
- [**Dell UK - Official Site** !\[\]\(f32f051caff760c22f74811f31680b83_img.jpg\)](#)
www.Dell.com/uk - Amazing Dell Offers With Intel® Technology. Buy Online Now!
- [**Yell - Laptops** !\[\]\(a3dc77a66b328b35cdd7b8293e17315f_img.jpg\)](#)
Yell.com/Laptops - Find Local Laptops. Yell.com: Find What You Need Fast!

 Usually dispatched within 1 to 3 months

Eligible for **FREE** Super Saver Delivery.

Electronics & Photo: See all 1,838 items

Tricks and cheats

A screenshot of an Amazon search results page. The search bar at the top shows the query "toshiba portege". Below the search bar are navigation links for "International", "Gift Certificates", "Deals Of The Week", and "Amazon.co.uk MasterCard". The main search results are displayed under the heading "toshiba portege". A section titled "SPONSORED LINKS" contains three items: "Toshiba Portege Laptops" (link to uk.computers.toshiba-europe.com), "Dell UK - Official Site" (link to www.Dell.com/uk), and "Yell - Laptops" (link to Yell.com/Laptops). To the right of the sponsored links, the text "SPONSORED LINKS" is repeated. Below the sponsored links, there is a paragraph of text.

SPONSORED LINKS ([What is this?](#))

- [Toshiba Portege Laptops](#)
- [Dell UK - Official Site](#)
- [Yell - Laptops](#)

uk.computers.toshiba-europe.com - Affordable **Toshiba** laptops with the power & specs your business needs.

www.Dell.com/uk - Amazing Dell Of

SPONSORED LINKS

Yell.com/Laptops - Find Local Laptop product search query or content on the page.

Usually, sponsored links are clearly labeled. When you click on a sponsored link, we get revenue. Generating additional revenue from sponsored links allows Amazon.com to offer lower prices to you - something we are dedicated to doing in every way we can.

Summary

- Plenty of suggestion
- Towards different items
- Trying to understand the “user need”

GOAL ?

About the Long Tail

ANATOMY OF THE LONG TAIL

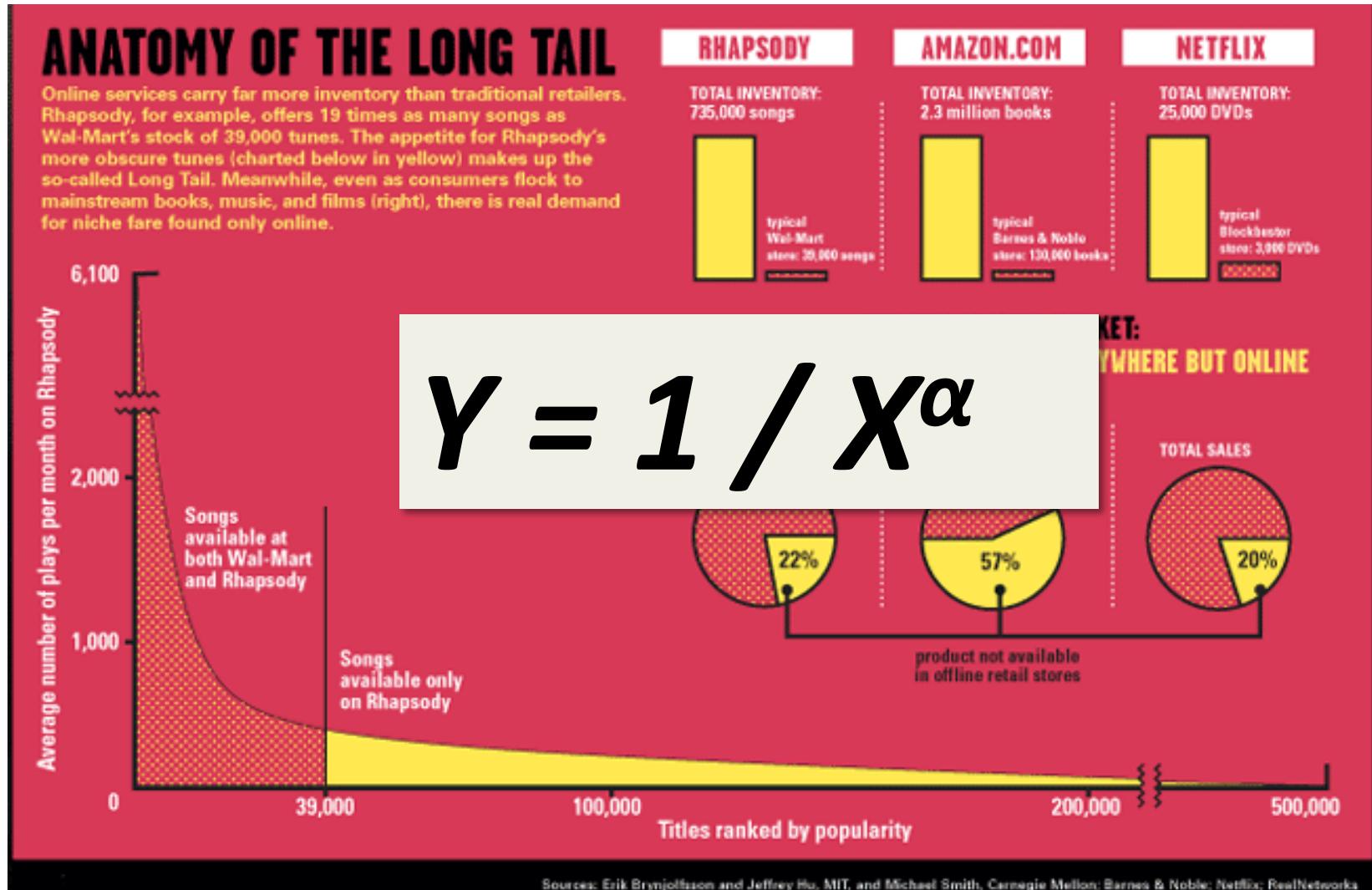
Online services carry far more inventory than traditional retailers. Rhapsody, for example, offers 19 times as many songs as Wal-Mart's stock of 39,000 tunes. The appetite for Rhapsody's more obscure tunes (charted below in yellow) makes up the so-called Long Tail. Meanwhile, even as consumers flock to mainstream books, music, and films (right), there is real demand for niche fare found only online.



Sources: Erik Brynjolfsson and Jeffrey Hu, MIT, and Michael Smith, Carnegie Mellon; Barnes & Noble; Netflix; RawNetworks

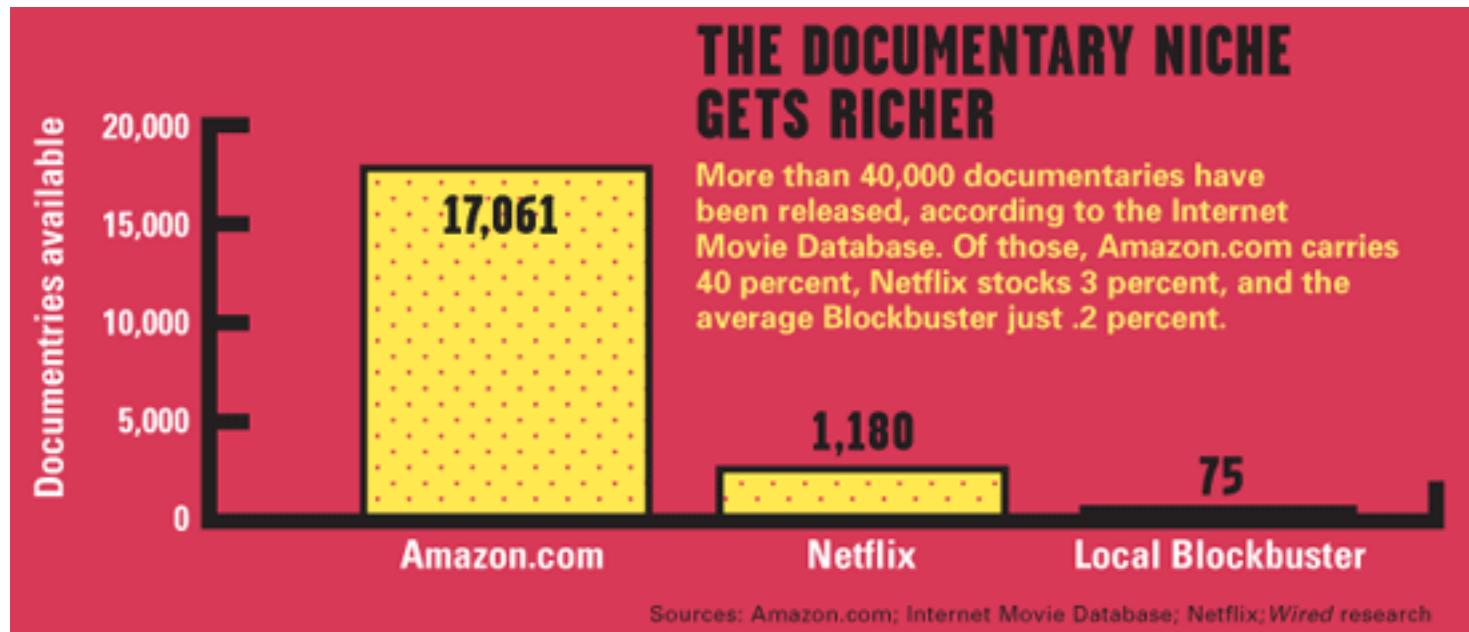
[Chris Anderson "The Long Tail" Wired, October 2004]

About the Long Tail

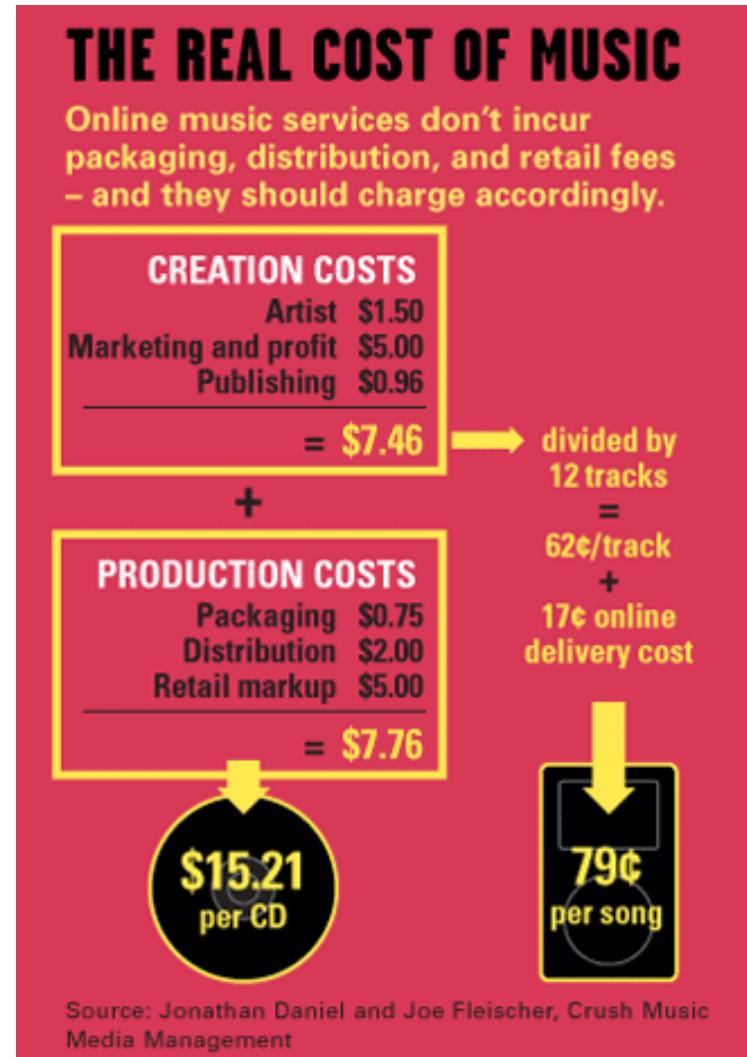


[Chris Anderson "The Long Tail" Wired, October 2004]

About the Long Tail



About the Long Tail

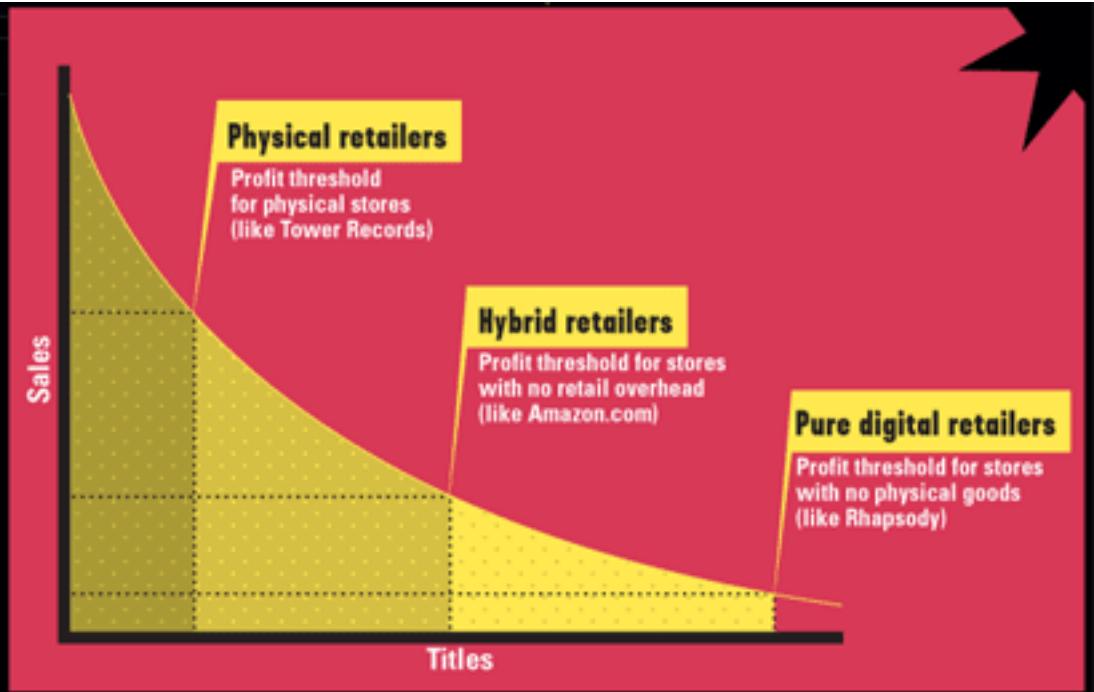


About the Long Tail

THE BIT PLAYER ADVANTAGE

Beyond bricks and mortar there are two main retail models – one that gets halfway down the Long Tail and another that goes all the way. The first is the familiar hybrid model of Amazon and Netflix, companies that sell physical goods online. Digital catalogs allow them to offer unlimited selection along with search, reviews, and recommendations, while the cost savings of massive warehouses and no walk-in customers greatly expands the number of products they can sell profitably.

Pushing this even further are pure digital services, such as iTunes, which offer the additional savings of delivering their digital goods online at virtually no marginal cost. Since an extra database entry and a few megabytes of storage on a server cost effectively nothing, these retailers have no economic reason not to carry *everything* available.



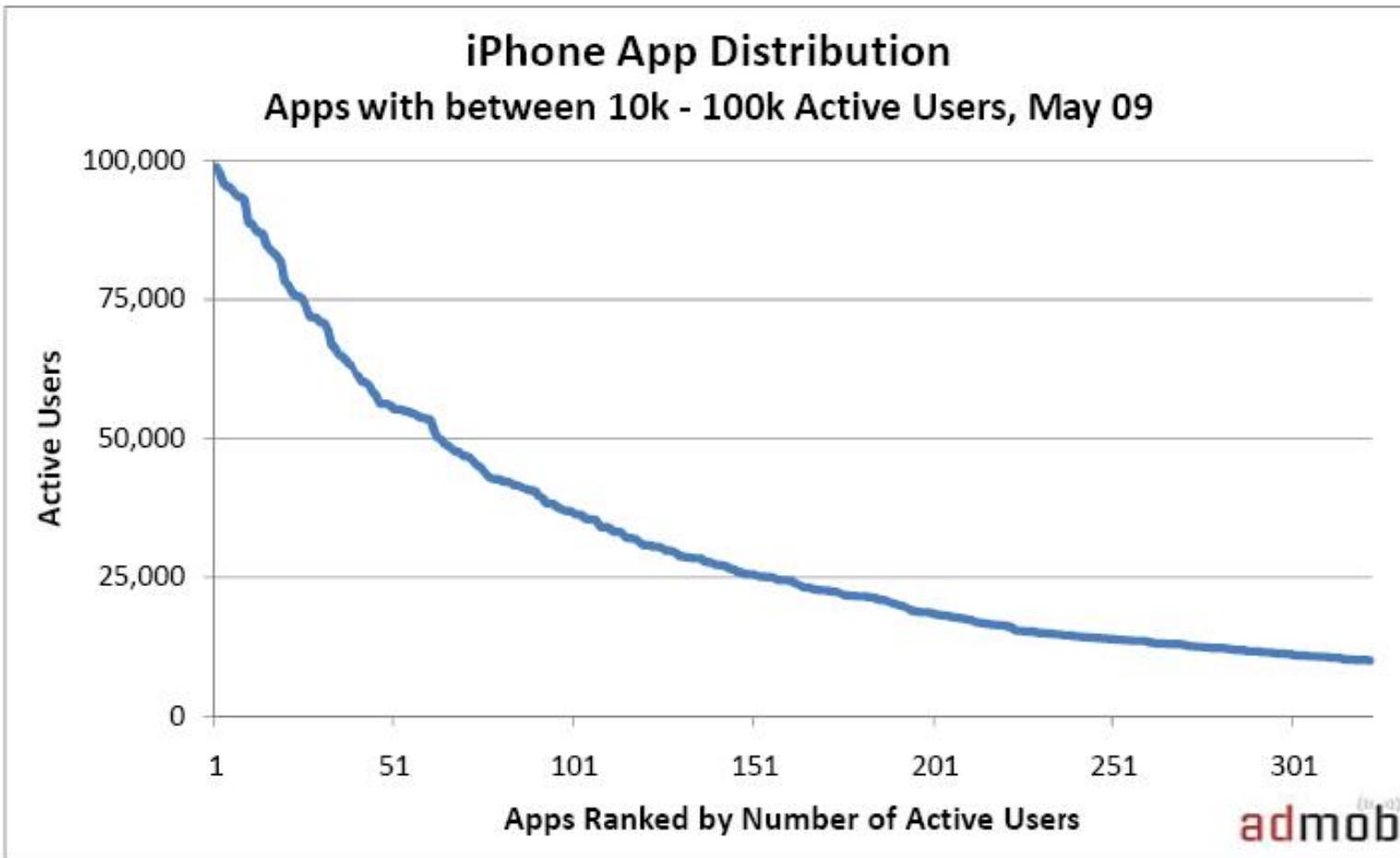
About the Long Tail



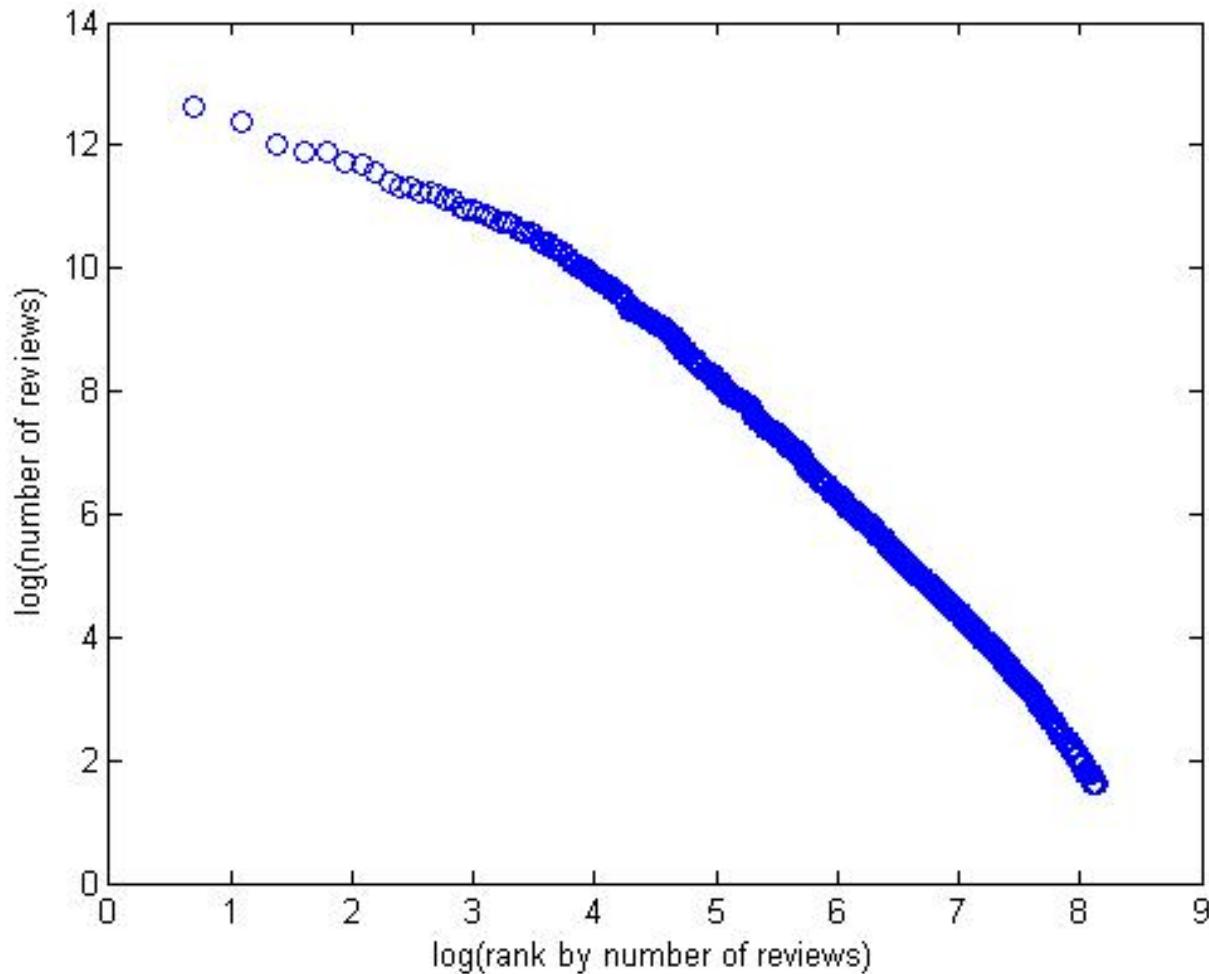
About the Long Tail

- Zipf's Law used to model the occurrence of words in a corpus of documents
- It can also model
 - Number of incoming links in a Web page,
 - Number of views,
 - Number of citations,
 - Number of purchases,
 - Occurrences of words into documents
 - ...
- Many real-world phenomena involving relations between humans exhibit a Zipfian distribution

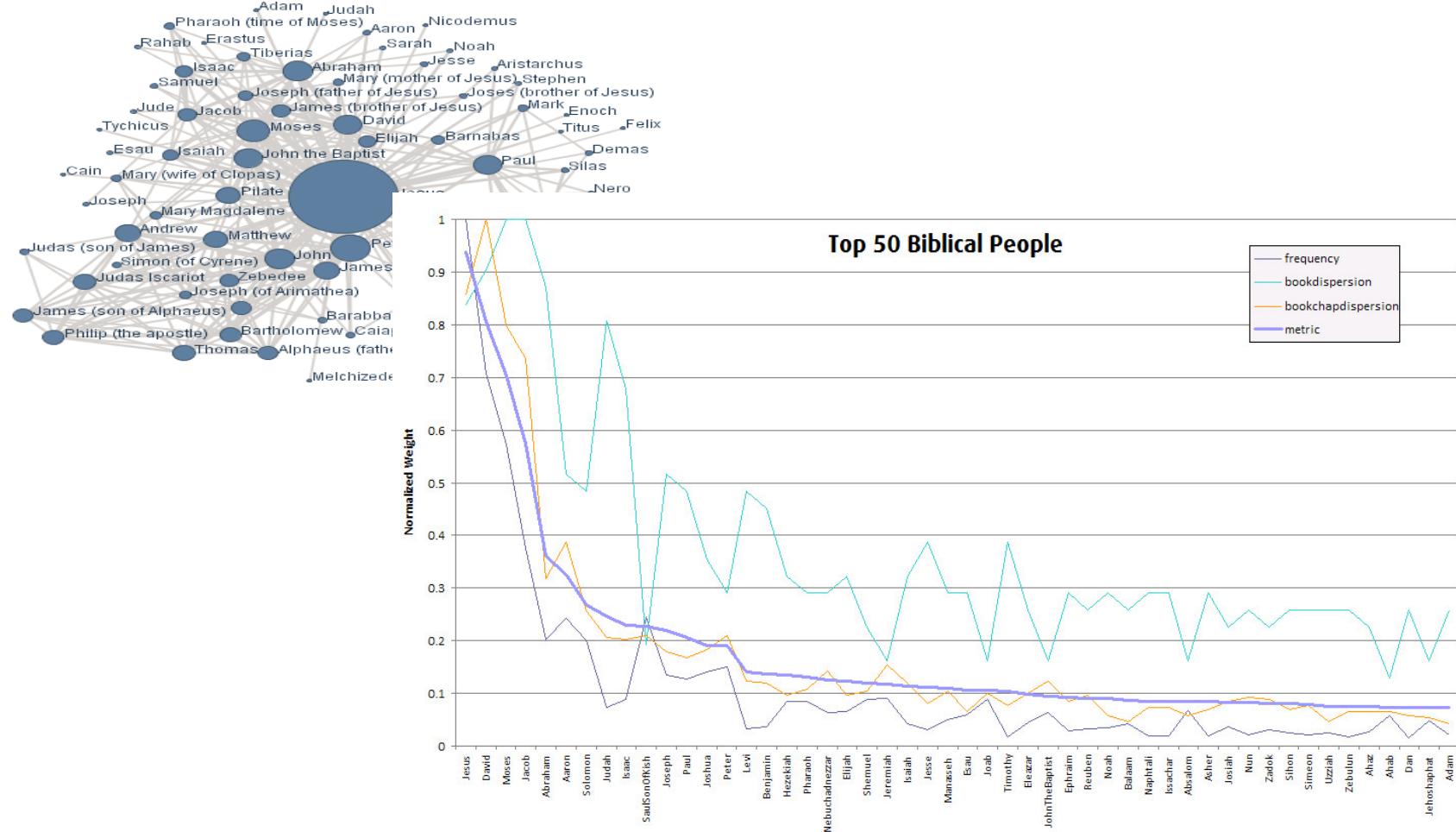
iPhone Apps popularity



iPhone Apps popularity



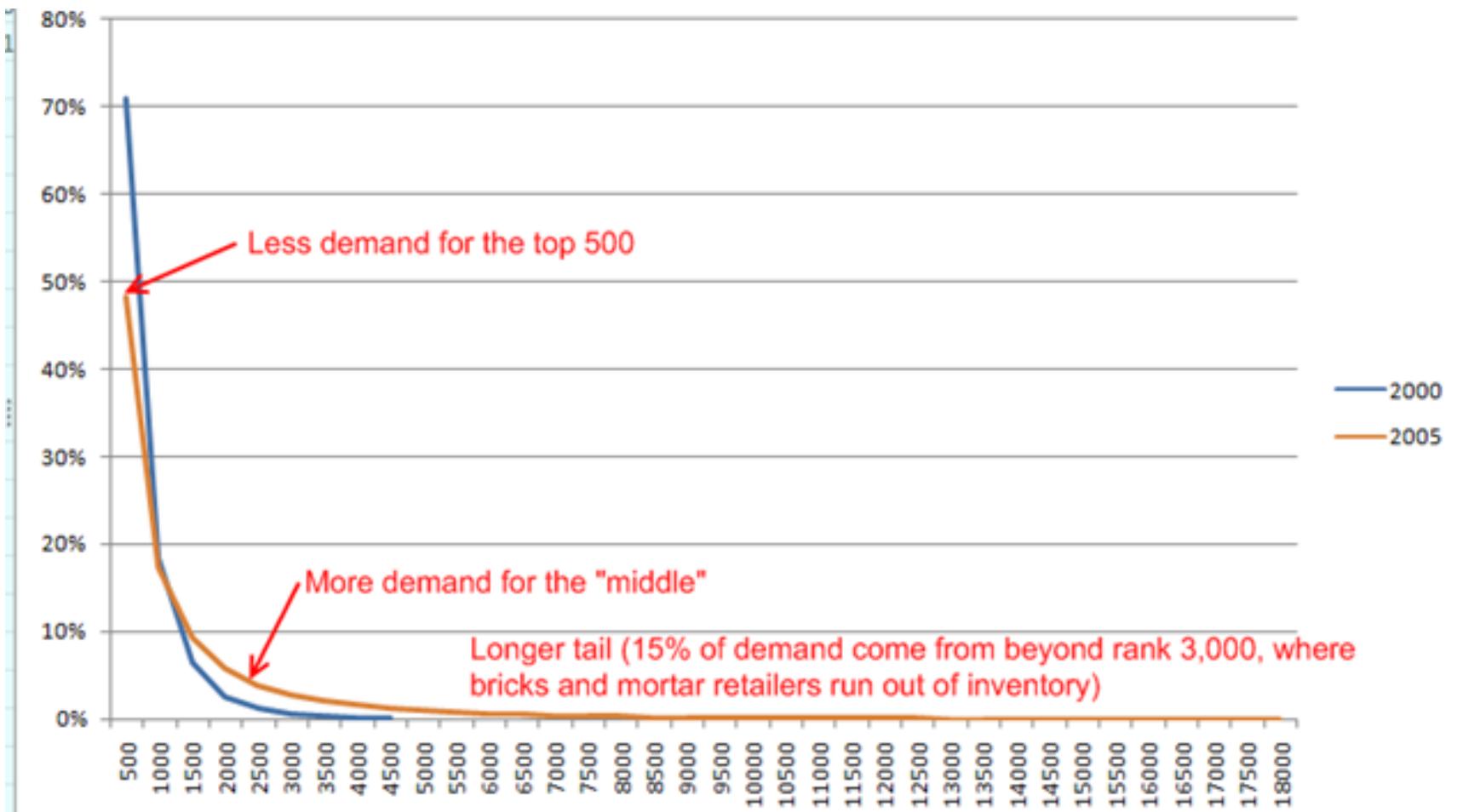
About the Long Tail



Netflix Contest

- Netflix Company
 - DVD rental and video streaming
- Cinematch:
 - “Its job is to predict whether someone will enjoy a movie based on how much they liked or disliked other movies”
 - “To qualify for the **\$1,000,000** Grand Prize, the accuracy of your submitted predictions on the qualifying set must be at least 10% better than the accuracy Cinematch”
 - “Contest begins October 2, 2006”
 - Winners awarded on September 21, 2009.

Netflix



Yahoo!



Web Immagini Video Pagine Gialle Shopping Altro ▾

venezia

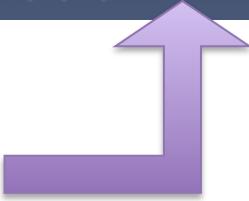
Cerca

aeroporto venezia
hotel venezia
comune di venezia
friuli venezia giulia
carnevale di venezia

Affina ricerca:
eventi a Venezia
Comune di Venezia
Municipalità
Museo Correr

Città di Venezia
Veneto
Meteo a Venezia
bando

Query Suggestions



Query Refinements



Yahoo!

250 Hotel a Venezia - Italia

Booking.com/hotel-a-venezia-italia - Prenota online, risparmi fino al 75% Nessun addebito, paga in albergo.

Una Venezia Hotel

www.unahotels.it - Hotel di lusso quartiere Cannaregio Sito ufficiale : -80% in linea .

Hotel Venezia Lastminute™

lastminute.com/hotelvenezia - 240 Hotel a **Venezia** Online con foto e commenti. Prenota ora.

PagineGialle Online

PagineGialle.it/alberghi - Vai dritto al punto: trova proprio quello che cerchi con Paginegialle.



Venezia - Guida viaggi

viaggi.yahoo.it

[Hotel](#) | [Ristoranti](#) | [Voli](#)

Da non perdere (40)

- 1 [Pachuka](#)
- 2 [Excalibur](#)
- 3 [Irish Rover Pub](#)

[Altri punti di interesse](#)

Yahoo! Shortcut - [Cosa sono?](#)

Risultati Sponsor

Risultati Sponsor

[Localizza Persone tramite Cellulare: scarica Applicativo](#)
Trova subito tutte le Persone che vuoi direttamente sul tuo Cellulare
diskomobile.com/trovapersone

Hotel a Venezia

Hotel con Foto, Mappe e Descrizioni. Sconti Fino al 75%
Prenota Ora.

www.initalia.it/hotel-venezia

Hotel Venezia?

Scopri gli Hotel di **Venezia** Qualità a Prezzi Mai Visti su ASK.
it.Ask.com/hotel-venezia

Cerchi Hotel Venezia?

Offerte e News dalla A alla Z
Prenota il Tuo Hotel **Venezia**.
Venezia.AzViaggi.com

293 Hotel a Venezia

Da 1 a 5 stelle: Compara gli hotel di **Venezia**, prenota e risparmia.
www.Venere.com/hotel-venezia-

Sponsored Links

Google



Web Show options...



[Venice](#)
[Italy](#)
maps.google.com

[Venice - Wikipedia, the free encyclopedia](#)

The population estimate of 272000 inhabitants includes the population of the whole Comune of **Venezia**; around 60000 in the historic city of Venice (Centro ...

[History](#) - [Geography](#) - [Economy](#) - [Transportation](#)

en.wikipedia.org/wiki/Venice - [Cached](#) - [Similar](#)

Google



notebook

Search

[Advanced Search](#)

Web [Show options...](#)

Results 1 - 10 of about 119,000,000 for **notebook [definition]**. (0.14 seconds)

[Google Notebook](#)

Google recently stopped development on **Notebook**, which means it's no longer open to sign-ups by new users or being improved. ...

www.google.com/notebook - [Cached](#)

[The Notebook \(2004\)](#)

Directed by Nick Cassavetes. With Ryan Gosling, Tim Ivey, Rachel McAdams. A poor and passionate young man falls in love with a rich young woman and gives ...

[Full cast and crew](#) - [Plot Summary](#) - [Memorable quotes](#) - [Synopsis](#)

www.imdb.com/title/tt0332280/ - [Cached](#) - [Similar](#)

[Shopping results for notebook](#)



[HP G71-340US](#)
- Core 2 Duo
2.2 GHz - 17.3

\$633 new
92 stores



[Dell Vostro](#)
1520 - Core 2
Duo 2.2 GHz -

\$643 new
90 stores



[Apple](#)
MacBook -
Core 2 Duo

\$920 new
18 stores



[Acer Aspire](#)
ONE D250-
1165 - Atom

\$260 new
49 stores



[Toshiba](#)
Satellite L450-
EZ1543 - Core

\$668 new
54 stores

Sponsored Links

[Notebook su ePrice](#)

Tutte le ultime novità **Notebook**!
Scegli Online, ritira al Pick&Pay.
www.ePrice.it

[Notebook Offerte?](#)

Il tuo Computer Portatile a Sconti Favolosi. Fino al 50%. Affrettati!
[Notebook. Bookmarks. Excite.it](#)

[Notebook](#)

Nuovi **Notebook**: Confronta i Prezzi
Acquista Sicuro su Kelkoo!
www.Kelkoo.it/Notebook

[Notebook](#)

Scegli il **notebook** tra 300 modelli.
Consegna in 24/48 Ore!
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 Gates and MS: Not Eye-to-Eye on CO2 Impact  Sam Machkovech

Submitted by [Sam Machkovech](#) on Tuesday February 23, @03:24PM

[Sam Machkovech](#) writes "Bill Gates' speech at last week's TED Conference centered on ["moving to zero-carbon energy, and our need to reduce CO2 emissions 80% by 2050."](#) His choice of subject was an abrupt turn from The Gates Foundation's typical humanitarian topics, but he insisted that energy innovation is as crucial to his Foundation's goals. A move by Microsoft today proves that Gates' old company has less interest in that carbon-neutral goal, [as MS has begun rallying against a bridge redesign](#) that would result in more bus and transit options for commuters between Seattle and the company's homebase of Redmond, WA."

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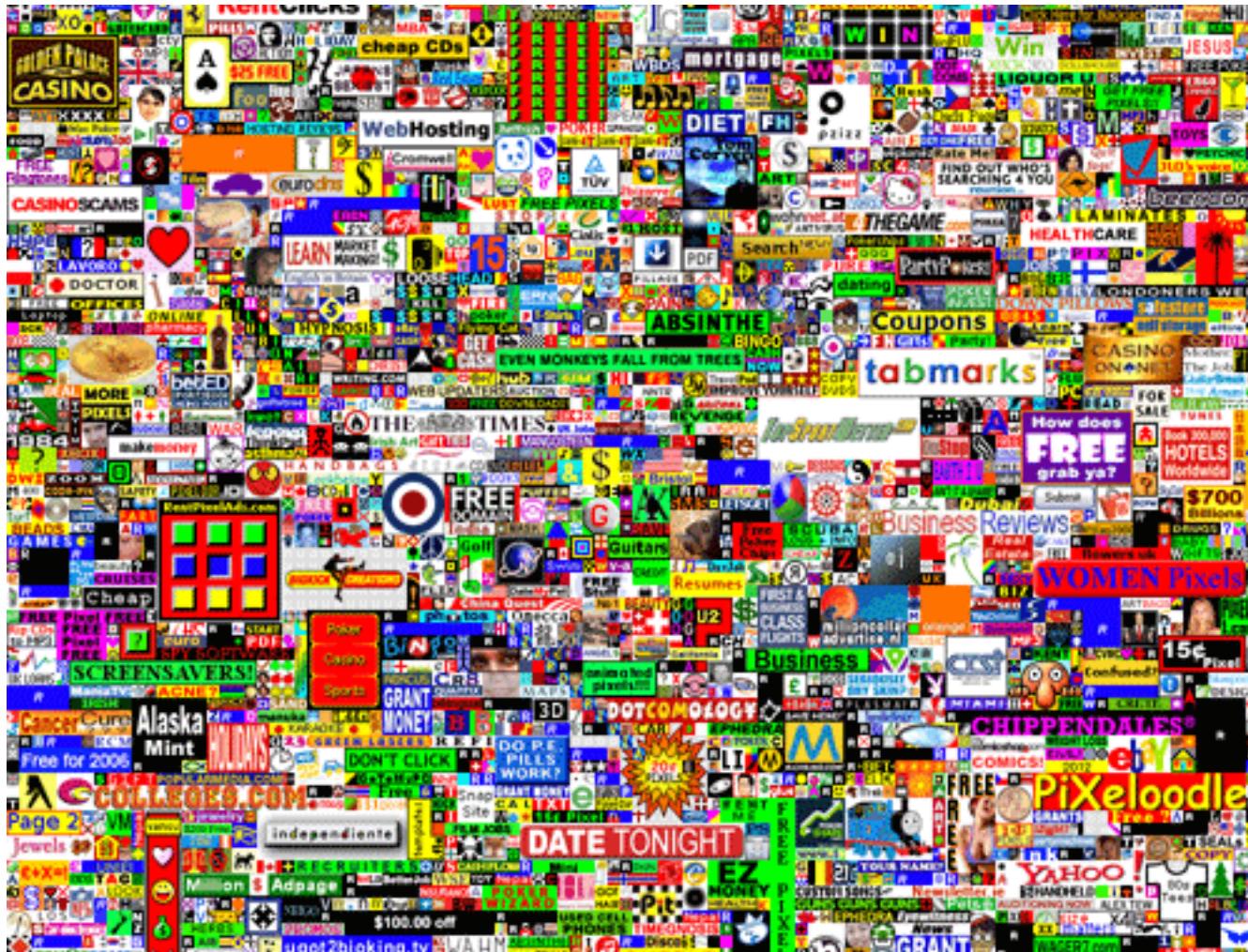
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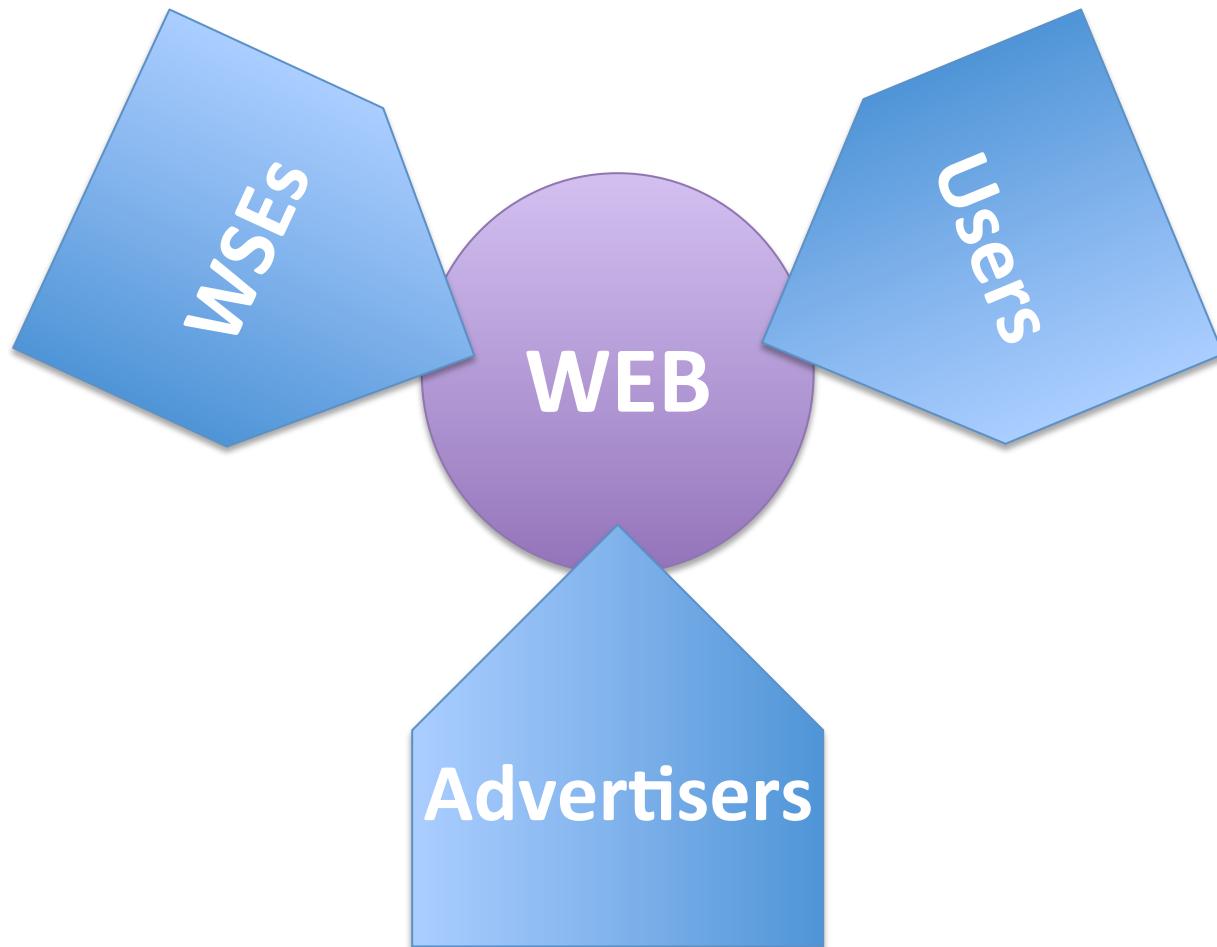
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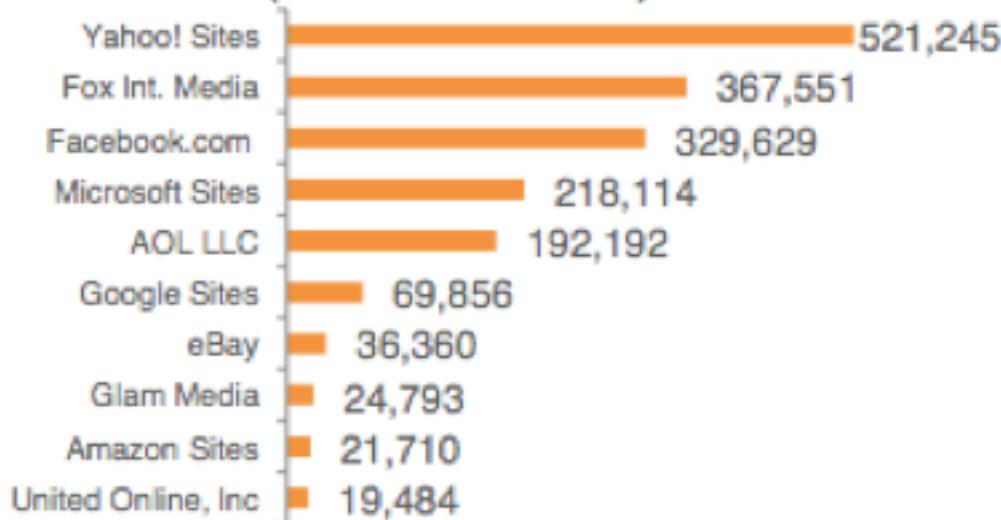
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- CPM : Cost per thousands impressions
 - Banners and brand advertising
- CPC : Cost per Click
 - Textual ads
- CPT/CPA : Cost per Transaction/Action
 - ... actually buying something
- Some studies show that about 30% of users interact with ads

Impressions Volumes

- (These numbers do not include paid search text ads)

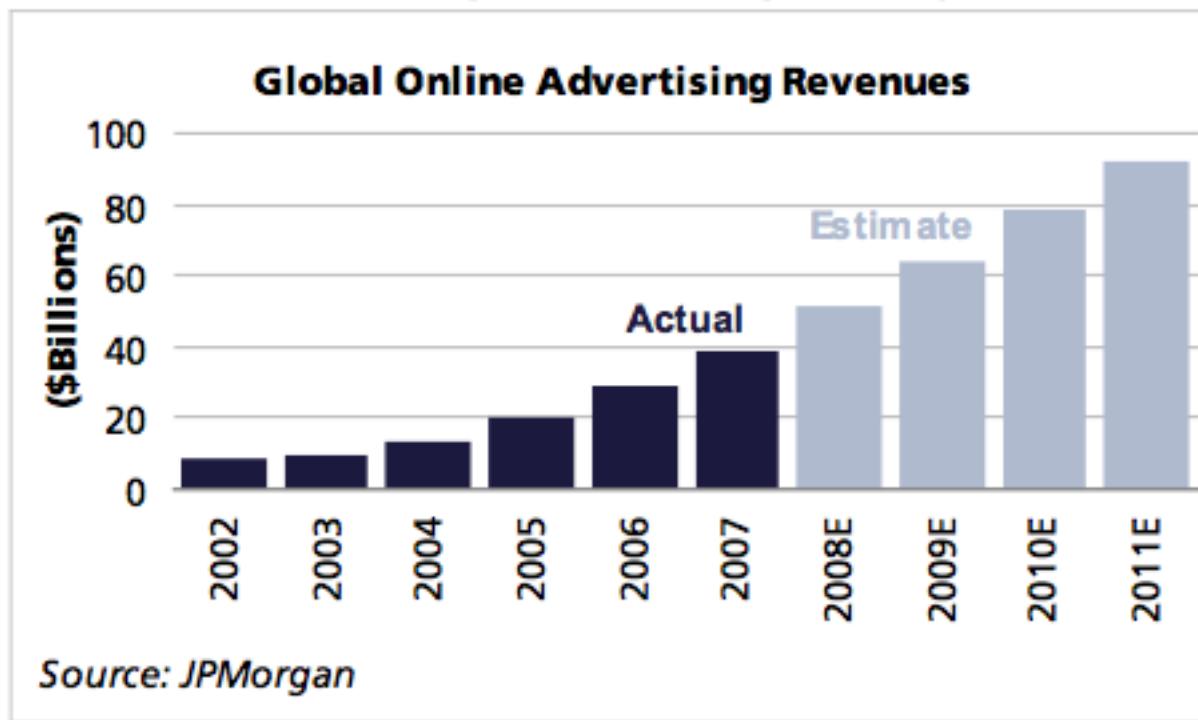
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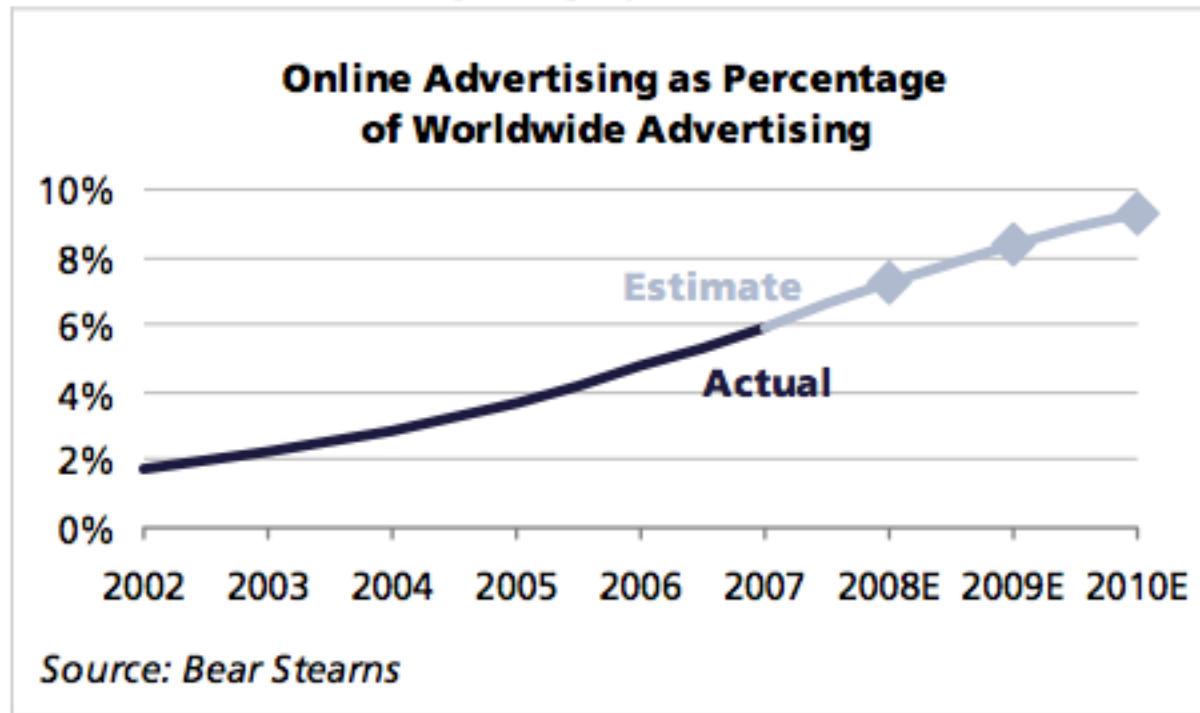
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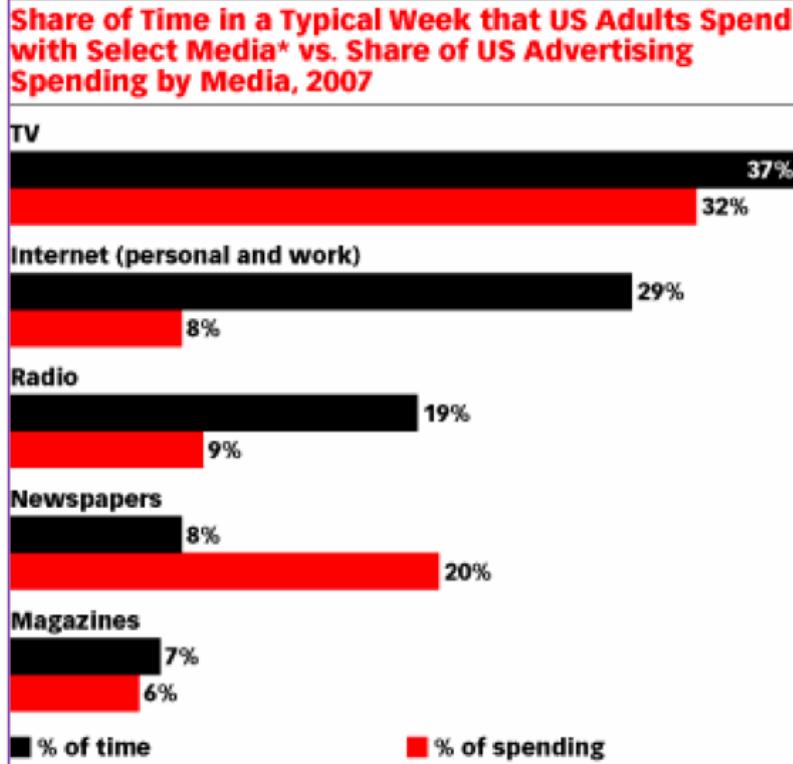


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Web-based Advertising, "Highly Measurable," Takes Share



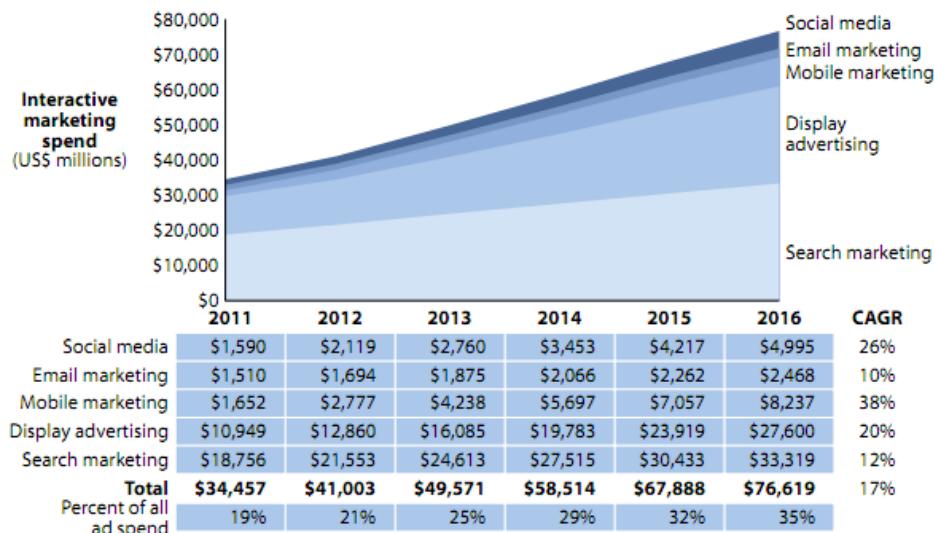
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Figure 1 Forecast: US Interactive Marketing Spend, 2011 To 2016



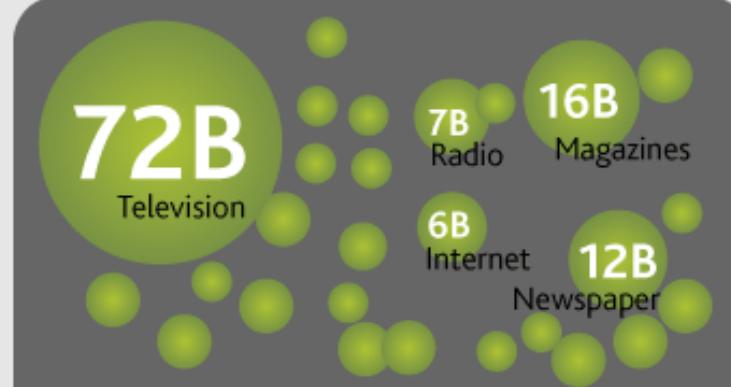
Source: Forrester Research Interactive Marketing Forecasts, 2011 To 2016 (US)

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Source: Forrester Research, Inc.

ADVERTISING & AUDIENCES BY MEDIA TYPE

2011 AD SPEND BY MEDIA TYPE (USD)



Something to take into account

- Billions of:
 - Ads, queries per hours, users, ...
- Milliseconds:
 - to provide a good ad
- Cost of:
 - CPU, Memory, Network, etc. vs. Revenue

Very short history ...

- Per impression pricing:
 - Very high prices
 - End to end negotiations
- Selling Keywords (1997 by Overture):
 - Auction
 - Pay per click
 - Issues for WSEs
 - Perfect fit for commercial web-sites
- Generalized second price auction (by Google):
 - The winner pays with according second bid

Summary

- Recommendation and Personalization are everywhere
 - Items suggestion, query suggestion, sponsored links
- Advertising is a sort of recommendation
 - It might be user/content dependent
- Long tail distribution
- The objective is to anticipate/help/drive users
- User data and User generated content are very helpful!

Web Mining

