

# Is there a data barrier to entry?

Hal Varian June 2015



[remove content from google news]

https://support.google.com/news/publisher/answer/93977

### Using robots to block Google News

We understand that news organizations publish lots of content and not all of it may be right for Google News. Google News crawls with the same robot as Google Web Search, called Googlebot.

Google Search and Google News support two different 'bots', namely Googlebot and Googlebot-News, that you can use as meta tags or in your robots entry to control where your content appears.

In other words:

If you block access to Googlebot-News, your content won't appear in Google News. If you block access to Googlebot, your content won't appear in Google News or Web Search.

# Google Outline

- The concept of "data barrier to entry" dates back at least to 2007, but what does it mean?
  - a. Data alone is nothing, what matters is what you do with it
- 2. Use and abuse of "network effects"
  - a. Demand side and supply side returns to scale
  - b. Demand side is not relevant for search
  - c. Every successful company uses data
  - d. Data is subject to diminishing returns to scale
- 3. Example: online search
  - a. How much data is "enough"?
  - b. Building a search engine on the cheap
  - c. Examples from ad targeting
- 4. Learning by doing and productivity growth

**Demand side.** The value of adopting a service to an incremental user is larger when more users have already adopted. *Direct* and *indirect* network effects.

**Supply side.** *Scale*: The cost of producing an incremental unit is smaller at higher levels of output. *Scope*: the cost of producing an incremental unit is smaller when other related production takes place.

x = scale of operation
 mv(x) = value to a marginal user increases with x
 mc(x) = cost of a marginal unit produced decreases with x

Consider Facebook which could conceivably have both demand-side and supply-side economies of scale

- **Demand side.** If there are more users on Facebook than MySpace, a new user would prefer to adopt Facebook.
- **Supply side.** If there are more users on Facebook than on MySpace, the average cost per user of providing the service will be lower on Facebook.

# Google Share and scale

- Share is relevant for adoption decisions, size is relevant for cost
  - Pure network effects means bigger network is more attractive to users
  - Pure economies of scale means bigger network has lower unit cost to firm
- Don't have to be the *most* profitable producer to survive, you just have to be profitable (i.e., cover costs)
- Upsets happen (MySpace/Facebook, Google/Yahoo/etc)
- Diseconomies of scale with respect to scale
  - Congestion
  - Competing priorities from core business needs
    - Microsoft prioritizes Windows/Office, Bing is secondary
    - Google prioritizes Search/Ads, Docs is secondary
    - A "me too" approach is futile, differentiation is key
    - Consumers benefit from competition...

# Google Virtuous circle?



# Google Economies of scale?



# Google Economies of scale?



# Google From virtuous circle to nutritious circle



"The higher the number of advertisers using an online search advertising service, the higher the revenue of the general search engine platform; revenue which can be reinvested in the maintenance and improvement of the general search service so as to attract more users." "The higher the number of **advertisers using an online search advertising service**, the higher the revenue of the **general search engine platform**; revenue which can be reinvested in the maintenance and improvement of the **general search service** so as to attract more **users.**" "The higher the number of **advertisers using an online search advertising service**, the higher the revenue of the **general search engine platform**; revenue which can be reinvested in the maintenance and improvement of the **general search service** so as to attract more **users.**"

"The higher the number of **customers a business** has, the higher the revenue of the **business**, revenue which can be reinvested in the maintenance and improvement of the **business** so as to attract more **customers**." "The higher the number of **customers a business** has, the higher the revenue of the **business**, revenue which can be reinvested in the maintenance and improvement of the **business** so as to attract more **customers**."

"The higher the number of customers a business has, the higher the **costs** of the business, **costs** which must be **invested** in the maintenance and improvement of the business if **it is to serve that higher number of customers**."

What matters (of course) is *how costs and revenue increase as scale increases* 



- Of course "more is better" but the question is whether cost of producing incremental quality decreases with scale
- Example: standard errors go down as the square root of sample size, a special case of diminishing returns. Twice as much data gives you 40% better accuracy.
- Is this true of machine learning? Let's see..

### **Disambiguation test**

Google



### Figure 1. Learning Curves for Confusion Set Disambiguation

Banko and Brill, "Scaling to Very Very Large Corpora for Natural Language Disambiguation", Microsoft Research



Figure 3. Voting Among Classifiers

"Beyond 1 million words, little is gained by voting, and indeed on the largest training sets voting actually hurts accuracy" Banko and Brill



"... a real-case scenario of an algorithm in production at Netflix. In this case, adding more than 2 million training examples has very little to no effect."



Xavier Amatrain, **10 Lessons Learned from Building** Machine Learning Systems, 2014



http://stackoverflow.com/questions/25665017/does-the-datasetsize-influence-a-machine-learning-algorithm



### Learning curves for naive Bayes



Junqué de Fortuny Enric, Martens David, and Provost Foster. Predictive Modeling With Big Data: *Is Bigger Really Better*?, Big Data, Dec 2013, Figure 2. "As Figure 2 [previous slide] shows, for most of the datasets the performance keeps improving even when we sample more than millions of individuals for training the models. One should note, however, that the curves do seem to show some diminishing returns to scale."

 $2^{10} = 1,024$   $2^{12} = 4,096$   $2^{14} = 16,384$  $2^{20} = 1,048,576$ 

Junqué de Fortuny Enric, Martens David, and Provost Foster. Predictive Modeling With Big Data: *Is Bigger Really Better*?, Big Data, Dec 2013.

# Data Threshold

Google



### Internet-scale Data Analysis, Peter Norvig 2010





# "If Bing were bigger, it would be better..."

But if Bing were better, it would be bigger.

How to get bigger? Imitation is the sincerest form of strategy But is "Me too" a strategy?



### Bing or Google?

Web Images Videos Maps News More

15,900,000 RESULTS Any time V

### Rome - Best Travel Tips on TripAdvisor - Tourism for Rome ...

www.tripadvisor.com > Europe > Italy > Lazio **\*** Rome Tourism: TripAdvisor has 1,721,820 reviews of Rome Hotels, Attractions, and

Restaurants making it your best **Rome** resource. Hotels · Things to Do in Rome · 3 Days in Rome · Flights to Rome · Rome Travel Forum

### Rome - Wikipedia, the free encyclopedia

#### en.wikipedia.org/wiki/ROME -

Rome is a city and special comune (named "Roma Capitale") in Italy. Rome is the capital of Italy and region of Lazio. With 2.9 million residents in 1,285 km 2 (496.1 ... Etymology · History · Government · Geography · Climate · Demographics

#### Videos of rome

#### bing.com/videos

YouTube



YouTube

YouTube

See more videos of rome

### **Rome** (TV Series 2005–2007) - IMDb

YouTube

#### www.imdb.com/title/tt0384766 -

★★★★★ Rating: 8.9/10 · 93,831 ratings · Action/Drama/History · 90 min With Kevin McKidd, Ray Stevenson, Polly Walker, Kerry Condon. A down-to-earth account of the lives of both illustrious and ordinary Romans set in the last days of the ...

### Rome.info > Rome tourist information

#### www.rome.info -

Offers tourist information on **Rome** and the Vatican city, including shopping, hotels, museums, transportation, and points of interest.

### Trending on social networks about rome

twitter.com



#### Jim Rome on Twitter twitter.com

The set for Showtime. See it in action Wednesday at 9n on @SHOsnorts



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### Rome

#### City

Rome is a city and special comune in Italy. Rome is the capital of Italy and region of Lazio. With 2.9 million residents in 1,285 km<sup>2</sup>, it is also the country's largest and most populated comune and fourth-most populous city in the European Union by population within city limits. The Metropolitan City of Rome has a population of 4.3 million resid... +

#### en.wikipedia.org

Local time: 8:36 PM 6/8/2015

Population: 2.65 million (2013)

Area: 496.26 sq miles (1,285 km²)

Travel tip: It's nicknamed the Eternal City for a reason. In Rome, +

Nearby airports: Leonardo da Vinci–Fiumicino Airport · Ciampino–G. B. Pastine International Airport

Host of: 1960 Summer Olympics

**Colleges and universities:** Sapienza University of Rome · John Cabot University · Pontifical North American College +

Weather

73 °F Cloudy



### Bing or Google?

Search tools

Web Images Maps News Videos More -

About 363,000,000 results (0.40 seconds)

### Rome - Wikipedia, the free encyclopedia

en.wikipedia.org/wiki/Rome ▼ Wikipedia ▼ Rome (/'roʊm/, Italian: Roma ['ro:ma] ( listen), Latin: Rōma) is a city and special comune (named "Roma Capitale") in Italy. Rome is the capital of Italy and ... Ancient Rome - Rome (disambiguation) - Rome (TV series) - History of Rome

### Rome (TV Series 2005-2007) - IMDb

www.imdb.com/title/tt0384766/ ▼ Internet Movie Database ▼ ★★★★★ Rating: 8.9/10 - 93,879 votes Videos. Rome -- (Series Finale) In the aftermath of the battle of Actium, Rome -- Rome is facing a dire shortage of grain, forcing Octavian to barter ...

### Rome Highlights - Lonely Planet

www.lonelyplanet.com/italy/rome 
Lonely Planet 
A trip to Rome is as much about lapping up the lifestyle as it is gorging on art and historic sights. And there's no better way of getting into the local spirit of things ...

### In the news



### Lion Elevator Restored at Rome's Gladiator Colosseum

NBCNews.com - 11 hours ago ROME, Italy - An ancient elevator that carried lions and other animals into Rome's ...

Deadly animal machine rises again at Rome's Colosseum CNET - 54 mins ago

Dazzling jewels from an Ethiopian grave reveal 2000-year-old link to Rome The Guardian - 2 days ago



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### Rome

Capital of Italy

Rome, Italy's capital, is a sprawling, cosmopolitan city with nearly 3,000 years of globally influential art, architecture and culture on display. Ancient ruins such as the Roman Forum and the Colosseum evoke the power of the former Roman Empire. Vatican City, headquarters of the Roman Catholic Church, boasts St. Peter's Basilica and the Vatican Museums, which house masterpieces such as Michelangelo's Sistine Chapel frescoes.

Founded: April 21, 753 BC

Weather: 72°F (22°C), Wind SE at 10 mph (16 km/h), 57% Humidity

Local time: Monday 8:36 PM

Hotels: 3-star averaging \$130, 5-star averaging \$380. View hotels

Province: Province of Rome

Population: 2.627 million (2012) UNdata

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Bing started as beta in 2010 in Germany Came out of beta in January, 2012

Google first offered German version in 2000. Eric Schmidt's <u>40-language initiative</u> was created in 2007

As more and more users, advertisers, and partners interact with Google across the world, the need for local products has become even more obvious. In 2007, we undertook a company-wide initiative to increase the availability of our products in multiple languages. We picked the 40 languages read by over 98% of Internet users and got going, relying heavily on open source libraries such as ICU and other internationalization technologies to design products.

Bing handles about half as many queries as Google in the US. Implications...

- experiments run at 2% rather than 1%
- experiment run for 2 days rather than 1 day
- amount of easily accessible past data is 4 weeks rather than 2 weeks

Is there some magic threshold?

# Google Distinct queries never seen before

- "50% of queries are seen by Bing fewer than 100 times in a month" Same is true of Google.
- The fraction of queries never seen before: Nov 2008: 16% Nov 2014: 15%
- Distinct queries: Nov 2008: 38% Hit asymptote in 2005



Distinct queries never seen before (smoothed)

Google Example: Ad Targeting

<u>Sept 21, 2008, Searchengineland.com</u>, Yahoo's poor ad targeting, Danny Sullivan.

"Yahoo executive vice president Hilary Schneider showed how few ads Yahoo returned for a search on [red roses in birmingham alabama]. In contrast, Google's search results page was loaded with ads. "

There were 10 ads on Google. But 9 of the Google advertisers were also on Yahoo---their ads just weren't showing! Several of the advertisers had the *exact same ads* on both search engines..

"... if Yahoo can't target an ad for "roses" to "red roses in birmingham alabama," it's got serious issues."

How does Bing do with this query in 2015?



About 3,230,000 results (0.60 seconds)

### Avas Birmingham Florist - AvasFlowers.com Ad www.avasflowers.com/Birmingham - (877) 804-0418 4.8 ★★★★ rating for avasflowers.com Best Local Flowers Delivered Save 45% Today & Get Free Delivery!

Same Day Delivery · Satisfaction Guarantee · 45% Off All Items

Get Well Flowers **Birthday Flowers** 

Sympathy Flowers 45% Off Sale

### Images for red roses in birmingham alabama

Report images



More images for red roses in birmingham alabama

Newtowie Eleviet

Red Roses Delivery www.fromyouflowers.com/Roses -4.3 **\*\*\* \* \*** advertiser rating \$29.99 Stunning Rose Bouquets "Best Value Florist" - CBS News

### Red Roses from \$29.99 www.proflowers.com/ -

4.2 ★★★★ rating for proflowers.com Order Red Rose Arrangements & Have Them Delivered Fresh Right Now!

### Red Roses from Just \$0.64 www.globalrose.com/Red-Roses -

4.6 ★★★★ rating for globalrose.com (877) 701-7673 The Highest Flower Quality Online. Order Now for Free Delivery!

### Bing

More

### bing red roses in birmingham alabama

Web Images

ges Videos Maps News

Also try: Birmingham Alabama · Club Red Birmingham AL · Alabama Rose Song

66,100,000 RESULTS Any time \*

### Roses from HOOVER FLORIST - your local Birmingham, AL

#### ...

#### www.birminghamalflorist.com/roses.php -

... your local **Birmingham**, **AL** florist and flower shop to save time and money. ... This vase of brilliant **red roses** is an elegant and natural way to say, ...

### Red Roses in Alabama, Birmingham - local.globalrose.com

#### local.globalrose.com/Alabama/Birmingham/Red Roses

Toll Free: (877) 701-7673 Hablamos Español; Sign In; My Account; Flower Videos; Contact Us

### A Dozen Premium Red Roses in Birmingham AL - Martin ...

#### www.martinflowers.net/birmingham-flowers/a-dozen-premium-red-roses...

Order A Dozen Premium **Red Roses** from **Martin** Flowers, your local **Birmingham** florist. For fresh and fast flower delivery throughout **Birmingham**, **AL** area.

### Dance with Me Bouquet with Red Roses in Birmingham AL

#### • • •

www.martinflowers.net/birmingham-flowers/dance-with-me-bouquet... 
Order Dance with Me Bouquet with Red Roses dance with me from Martin Flowers, your local Birmingham florist. For fresh and fast flower delivery throughout Birmingham ...

### Related searches Birmingham Alabama Club Red Birmingham AL Alabama Rose Song Salon Red Birmingham AL Alabama Rose Gardens University of Alabama at Birmingham Rose of Alabama YouTube University of Alabama Roses

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Google Confidential and Proprietary

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### AvasFlowers.com



### fromyouflowers.com

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	Track an Order	Birthday Flowers & Gifts	Day Local Delivery.			
	Track your order at FromYouFlowers.com. It is easy	Birthday Flowers Flowers for Birthdays - Shop our collection of	(923 reviews)			
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	Sympathy Flowers Flowers for Sympathy, Hand Delivered - From	Cheap Flower Delivery Today! Send flowers cheap with 20% off	www.FTD.com/FlowerDelivery 8,200+ followers on Twitter Up to 33% Off Stupping ETD® Flowers			
	Funeral	Flowers on Sale	Hand-Delivered by a Local Florist!			
	Funeral <b>Flowers</b> Delivered Today Same Day <b>Flowers</b> for a Funeral	20% Off Flowers on Sale! Online flowers from \$23.99. Enjoy flower	reviews) See your ad here »			
	From You Flowers.com	Gift Baskets				
	This site won't let us show the description for this page.	Send a Gift Basket Today! 20% Off gifts for Delivery. Shop Birthday …	Related searches			



### proflowers.com





### globalrose.com

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AlRose wholesale flowers - Flowers , Roses, pse.com/flowers Rose specializes in providing Wholesale Flowers for weddings in a wide array of tigths and colors ideal to meet all your needs. Off Globalrose Promo Code: Get 10% Off Coupons mocode.com , , Gifts, Crafts & Hobbies bde XMAS-EXCLUSIVE at globalrose.com. Globalrose coupons: Get free g and 30% off with BluePromoCode. 10% Off Everything. 10% Off Everything. AlRose Local Pages obalrose.com wers. 18 White Calla Lily Flowers Stunningly Beautiful! 10 White Hydrangea	
	Images       Videos       Maps       News       More         EESULTS       Any time ×

### FTD





### thebouqs



Google Long tail queries [appeared once in a particular day]

### Often misspelled, long, and local ...

countr	y rpm bucket query
US	recover information from digital camera hard drive
US	alpharetta air duct cleaning
US	stone mountain carpet cleaning
US	plano foundation repair
US	cheap but good auto insurance in los angels ca
US	boiler rental richmond va
US	25 mailbox hosted exchange plan
US	marietta carpet cleaner
US	new york wedding band
US	criminal attorney fort myers
US	www.mesothelioma.com
US	hosted exchange pricing
US	house tinting houston
US	disk data recovery cleveland
US	personal injury attorney, dallas
US	flower mound foundation repair
US	murder lawyer in los angeles
US	drug rehab phoenix arizona

....

# Google So why is Google better?

- 1. Learning by doing is powerful
  - a. "Learning by experimentation, or tweaking, seems to be behind the continual and gradual process of productivity growth." Hendel and Spiegel, "Small steps for Workers, a Giant Leap for Productivity", *American Economic Journal: Applied Economics*, 2014.
- 2. Search is core to Google's business, we've been doing it since 1998 and have learned a lot
- 3. (Microsoft has learned a lot about office software, gaming, PC OSes, etc.)
- 4. But...
  - a. Microsoft has \$80B in cash to invest in search
  - b. Baidu (world's 2nd biggest search engine) is investing heavily in machine learning and foreign expansion
  - c. If Google stopped innovating, we would likely see deterioration in user satisfaction within a few months

Google spends much more on search

- 1. Google invests much more than Bing on search and ads
- 2. "Ballmer is willing to invest 5-10% of operating income in Web search" = \$1-2B per year. [seattlepi.com, 2009.]
  - Google's costs are are \$48B/year. Perhaps 30% of this goes to search and ads. If so, Google is spending ~10 times as much as MSFT.
  - b. Some of these costs are due to larger size, of course
- 3. Microsoft has shown it is possible to build a me-too search engine on the cheap.
- 4. But how does Microsoft expect to succeed with a me-too strategy?
- 5. Google faces this problem in office software, but we offer a differentiated product.

### **Product Listing Ads**

### Buy Running Shoes - All Things Sporting Good

Save Big on Running Shoes Join The League & Save · Free Shipping Over \$49 Ratings: Selection 8.5/10 - Service 8/10 - Shipping 8.5/10 - Returns 8/10 • 1675 Olympic Blvd, Walnut Creek, CA - (925) 942-0490

Men's Shoes
Kids' Shoes

Google

Infant's Shoes Socks

### Road Runner Sports® - World's Best Running Shoes

Ad www.roadrunnersports.com/ ▼
 4.3 ★★★★☆ rating for roadrunnersports.com
 Choose from 801+ Styles. Free Ship!
 ♀ 1975 Diamond Blvd, Concord, CA - (925) 825-8052

### Running Shoes & Running Sneakers | DICK'S Sporting Goods

www.dickssportinggoods.com/category/index.jsp?... Dick's Sporting Goods Find the Right Fit: **Running Shoe Buying** Guide. Mile after mile—discover the shoes it takes to keep running. The best **running shoe** sets you apart at the starting ...

### Road Runner Sports: The Best Top-Brand Running Shoes ... www.roadrunnersports.com/

Road Runner Sports - The World's Largest Running Store. Shop all the best top-brand **running shoes**, apparel & running gear w/ FREE SHIPPING! ... Gift Cards. Always the perfect gift! **Buy** now!

Men's Shoes - Women's Shoes - Running Shoes for Men - Store Locator

### How to Buy the Right Running Shoes | Runner's World

www.runnersworld.com/running-shoes/how-to-buy-the-r... Runner's World Oct 31, 2006 - Finding the Pefect Pair of Running Shoes Finding the Perfect Pair of ... Five shoe-buying strategies that won't leave you tied up in knots. ByMatt ...

### Running Shoes, Running Sneakers, Trail Running ... - Zappos



### Ads

### Running Shoes at Zappos www.zappos.com/Running-Shoes

Huge Selection of **Running Shoes**. Free Shipping & Returns at Zappos!

### Running Shoes Superstore www.runningshoes.com/ \*

4.8 ★★★★ advertiser rating
Free Shipping Both Ways.
Love 'em or send 'em back. On us!

### ASICS - Go Run It

www.asicsamerica.com/running -Find The Running Footwear For Your Training Needs At ASICS

### Buy On Running Shoes www.on-running.com/Shop -

Try the lightweight On & experience a supernatural ride. **Buy** online.



### **Product Ads**

9,140,000 RESULTS Any time -

### Running Shoes Superstore - RunningShoes.com

Ad · RunningShoes.com · 3,400+ followers on Twitter

By Runners. For Runners. Free 3-Day Shipping & Free Returns The Running Shoes Superstore | RunningShoes.com

 Trail Running Shoes
 Cushioned Running Shoes

 Minimalist Running Shoes
 Stability Running Shoes

#### ASICS - Go Run It | asicsamerica.com

#### Ad www.asicsamerica.com/running

Find The Running Footwear For Your Training Needs At ASICS

The World Of ASICSMy ASICSASICS Race InfoASICS Mammoth Track Club

### Running Shoes-Foot Locker | FootLocker.com

### Brooks Running Shoes - Big Selection Of Brooks Shoes.

#### Ad · FinishLine.com/Brooks

★★★★★ (16,310 reviews) · 468,300+ followers on Twitter Big Selection Of Brooks Shoes. Buy Brooks Now At Finish Line! Prices: Under 50, 50 - 100, 100 - 150, 150 - 200 and more

### How to Buy Running Shoes | Runner's World

#### www.runnersworld.com/the-starting-line/how-buy-running-shoes \*

How to **Buy Running Shoes**. If you're just starting to walk or **run**, a good pair of **shoes** is important. Here's a primer. By Jennifer Van Allen Thursday, April 4, 2013 ...

#### Road Runner Sports: The Best Top-Brand Running Shoes ...

#### www.roadrunnersports.com -

Road Runner Sports - The World's Largest Running Store. Shop all the best top-brand running shoes, apparel & running gear w/ FREE SHIPPING! Women's Shoes · Running · Men's Shoes · Women's Apparel · Men's Apparel

### How to Buy the Right Running Shoes | Runner's World

#### www.runnersworld.com/running-shoes/how-buy-right-running-shoes -

Finding the Pefect Pair of **Running Shoes** Finding the Perfect Pair of **Running Shoes** Use these tips to make sure you're picking out the perfect pair for your feet. Related searches

(j)

Best Buy Running Shoes What Running Shoes Should I Buy Best Place for Running Shoes How to Shop for Running Shoes What to Look for in Running Shoes Good Running Shoes Buy Running Shoes Cheap Buy Running Shoes Online Cheap

#### Ads 🛈



Nike Men's FreeNike Dual FusionNike Women'sNike MenTrainer 5.0 Ha...Run 2 - Mens ...Free 5.0 2014 ...Free Ru\$109.99\$71.99\$99.99\$99.99macys.comFoot Lockermacys.commacys.com

Nike Men's 5.0 Free Running ... \$99.99 macys.com



Vibram Five	Spalwart Trail	Nike R
Fingers Men'S	Runner Shoe	10.5-3
\$59.00	\$300.00	\$55.00
LOEB'S	Barneys New	Shoe C

Nike Run Lite 5Yaktrax Run10.5-3Winter Tractio...\$55.00\$39.95Shoe CarnivalREI

### Saucony® Running Shoes

### www.Saucony.com

75,200+ followers on Twitter Shop the Largest Saucony Selection of Running Shoes, Apparel & Gear. Natural Running Shoes For Men & Women | Saucony

# Google Product Ads

# Google has established a common data standard for PLAs.

### "

"

I want my ads to grab a customer's attention.

Product Ads can save you time. Product Ads pull information from your product eed to generate your ad — like image, price and brand name.

"

"

I need to be efficient — I'm already advertising with Google Product Listing Ads. A Product Ad takes up more space on the search results page than a traditional text ad. Product Ads can also show simultaneously with your text ads, giving you even more real estate.

> I'm busy — I need to free up time so I can focus on my business. Efficiency and scalability are key.

If you are already running Google Product Listing Ads, it's easy to import those campaigns into your Bing Ads account. Once set up, Product Ads are easy to manage and maintain.

## Google Yahoo product ads



Topics:

Search Native

F Like

in Share

😏 Tweet 🖓 3

**Audience Targeting** 

5

# More Volume for Product Ads in Time for Your Holiday SEM Campaigns

OCT 28,	2014	Product Ads now served on 100% of eligible Yahoo Bing Network search traffic
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**Product Ads** on the Yahoo Bing Network have been available since March, and search advertisers have been **seeing great results**.

In case you're not using them yet, Product Ads appear for searches that are relevant to your product inventory and automatically serve the appropriate images, text, and pricing



from your product catalog. Advertisers have been asking for one key enhancement---more volume, so they could scale those great results. We're happy to announce that Product Ads are now showing on 100% of eligible Yahoo search traffic, giving advertisers a boost just in time for the holidays.

# Google Baidu product ads

### 🕙 为您推荐: running shoes是什么意思 running shadow running man

### shoes shoes20 shoesWelcome BuKangShoes

推广链接

shoes20 years'experiences in exporting shoes, Welcome you to join us and expect your kind co-operation! www.poocan.cn 2015-06 - V1 - 评价

### Running Shoes | Runner's World



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### running shoes [释义] 跑鞋; 全部释义>> [例句] Over the past two years, hourly wage rates in china have increased by 50% for brooks sports inc., which makes running shoes and apparel. 过去两年间,跑鞋和运动服生产商brooks sports inc.在中国每小时的工资率增长了 50%。 更多例句>>

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#### CEO: Satya Nadella

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