

REDACTED PUBLIC VERSION

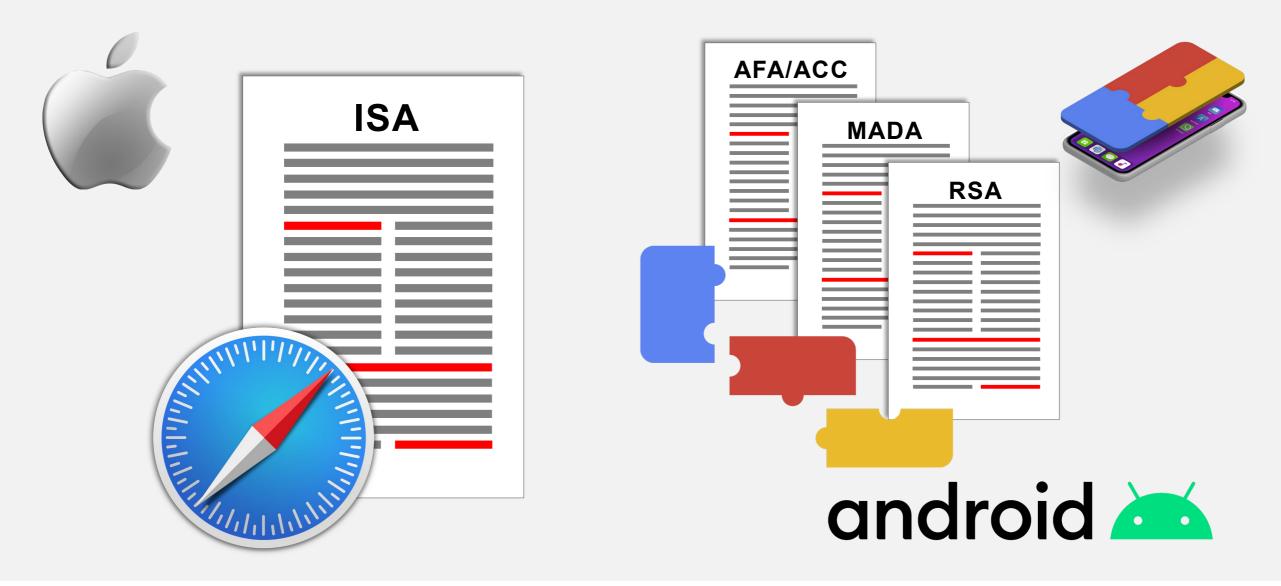




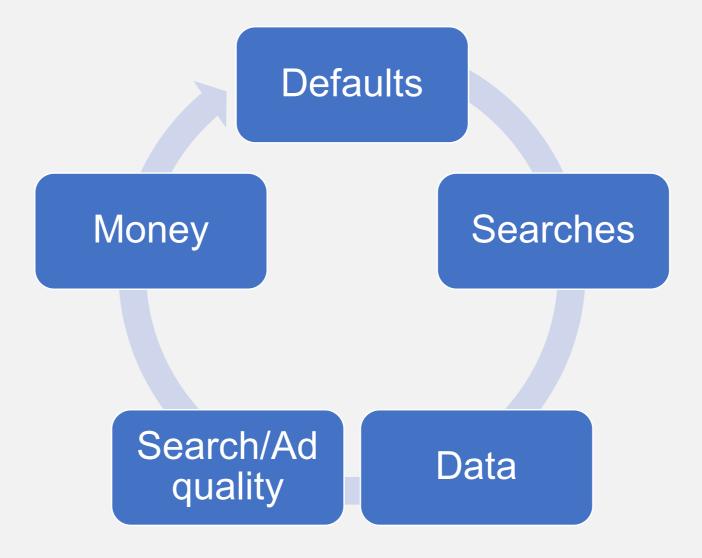






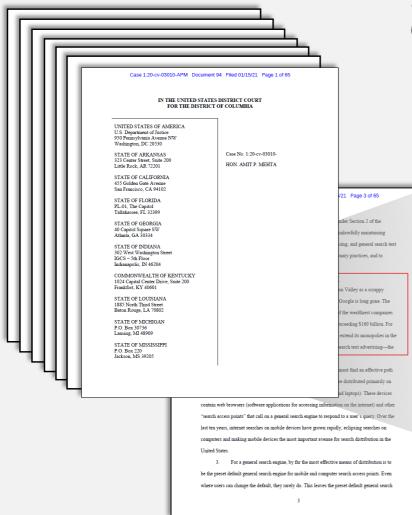






Roadmap





I. NATURE OF THIS ACTION

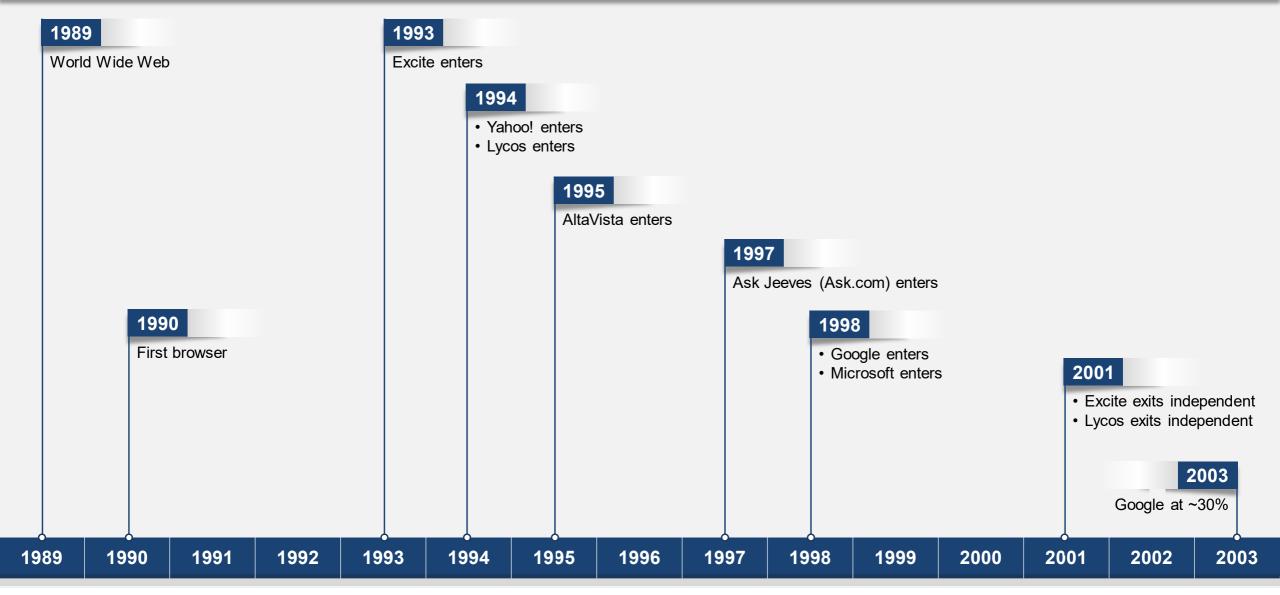
1. Two decades ago, Google became the darling of Silicon Valley as a scrappy startup with an innovative way to search the emerging internet. That Google is long gone. The Google of today is a monopoly gatekeeper for the internet, and one of the wealthiest companies on the planet, with a market value of \$1 trillion and annual revenue exceeding \$160 billion. For many years, Google has used anticompetitive tactics to maintain and extend its monopolies in the markets for general search services, search advertising, and general search text advertising—the cornerstones of its empire.

Roadmap





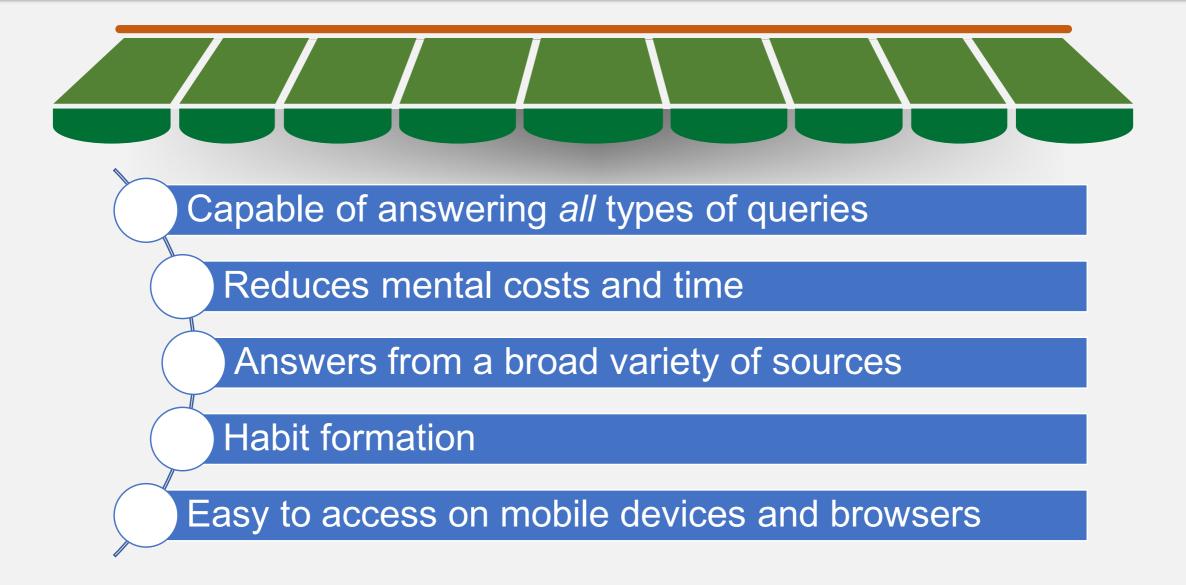
Search Timeline



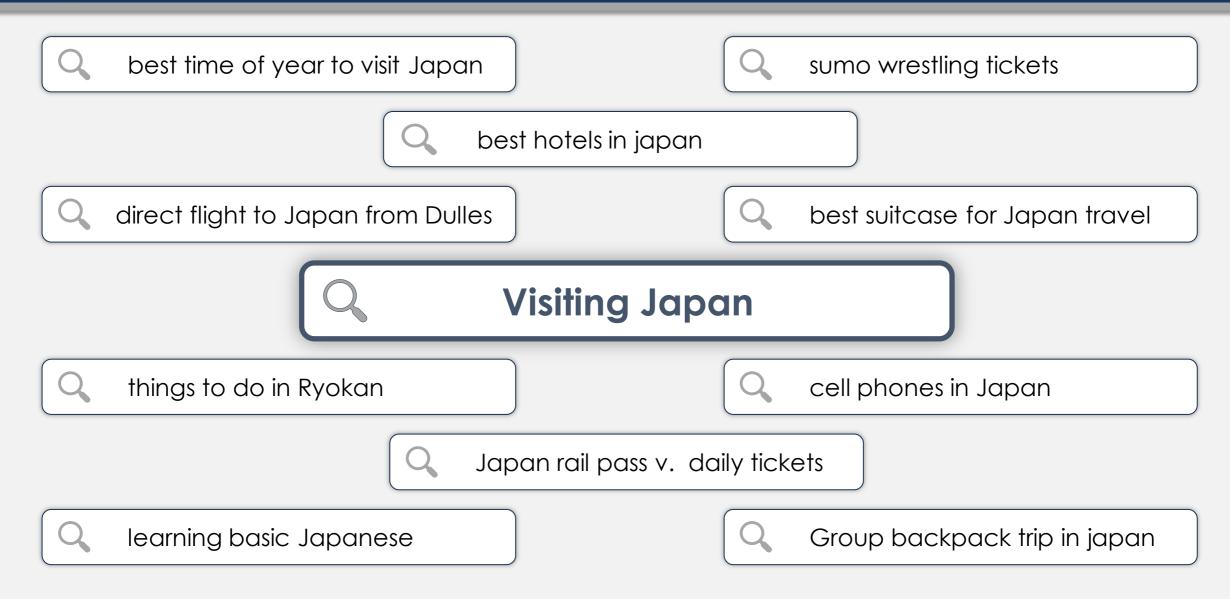
What is general search?



One-Stop Shopping









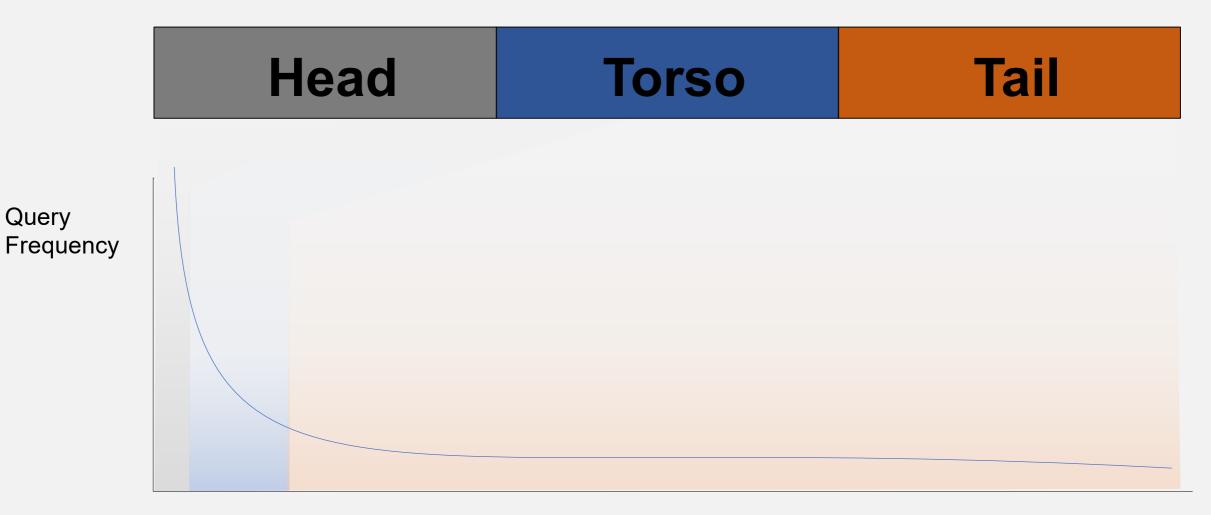


WSSTING GAPANPAN

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Query Distinctness



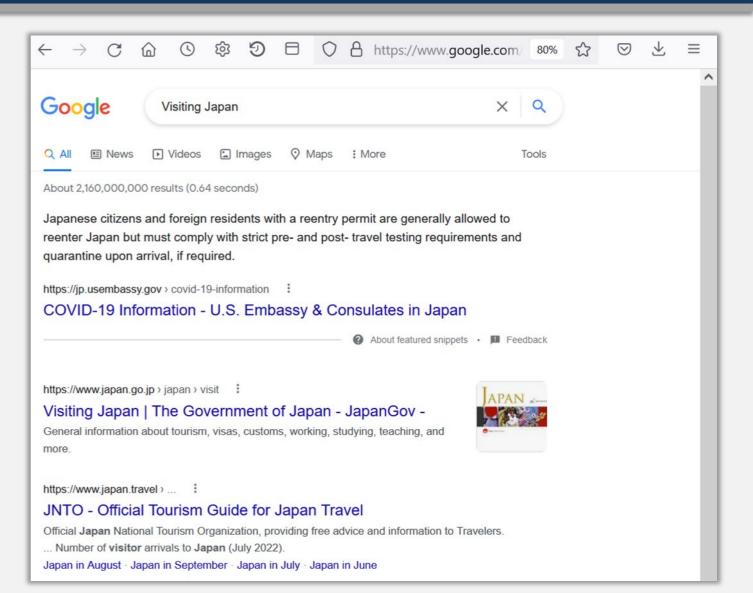
	Queries
Head	"United Airlines"
Torso	"Train Schedule From Tokyo to Kyoto"
Tail	"Ramen restaurant in Hakone japan with red awning"







SERP Organic results





SERP Advertising

Ad · https://www.nationalgeographic.com/

National Geographic - Trips To Japan

Travel Beyond Your Wildest Dreams. See the World Close-Up with Nat Geo Experts. Explore All That **Japan** Has To Offer! Request A Free Catalog To Plan Your Next Trip. Hiking Trips. ***** Rating for nationalgeographic.com: 4.6 - Return policy: Most items 30+ days Find The Trip For You · Special Offers · Reserve Online · Discover the Difference

Ad · https://www.thegetaway.com/japan/things-to-do

Top 12 Things To Do In Japan - Must Sees, Dos & Visits (2022)

Imperial Tokyo, Historic Kyoto & More - See 10 Best Places To **Visit** In **Japan**. Imperial Tokyo, Historic Kyoto & More - See Top 10 Things to Do in **Japan**. Vacation Ideas. 10 Most Beautiful Places · Things To Do In Japan · Travel Insurance Tips · Trip Planning

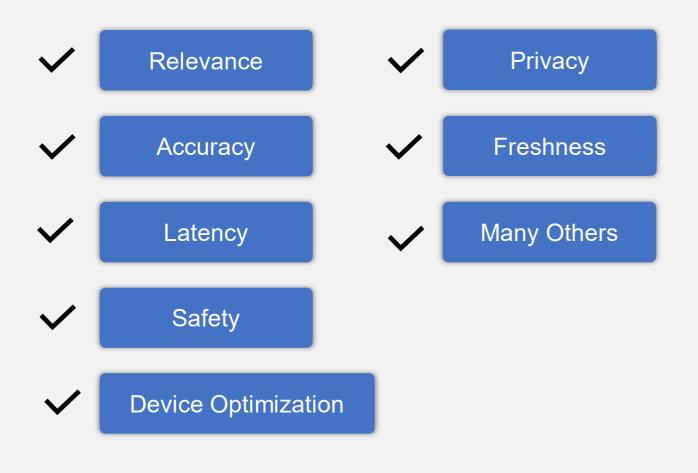
Ad · https://www.kensingtontours.com/

Tailor-Made Japan Tours - Nat'l Geographic Award Winner

Tailor-Made Experiences; Expert Private Guides; Unbeatable Value. Request A Custom Quote. Hand-Picked Hotels & Ryokan, Hidden Gems, 24/7 In-Country Support & Unbeatable Value. Fast Custom Quotes. 30,000+ Delighted Clients. Risk-Free Booking Offer. Top Ryokan & Hotels · Private Guides · Expert Planners · 24/7 In-Country Support

What are dimensions of quality in general search?

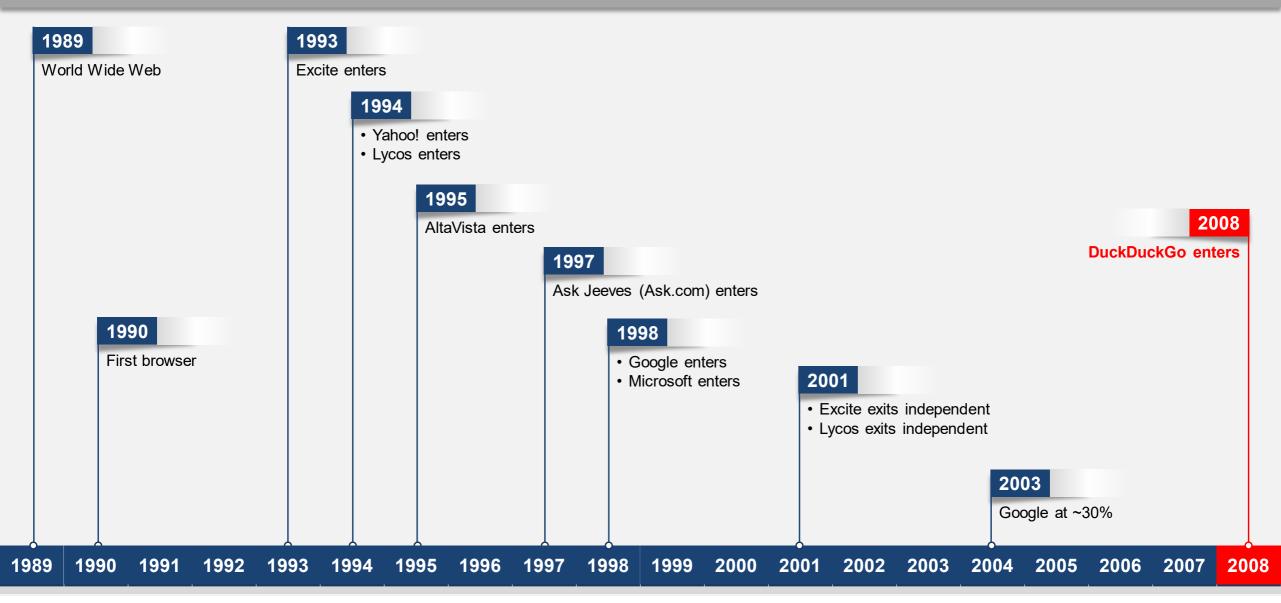
Search Quality



Google	
Q Covid restrictions in Japan	×



Search Timeline



Who provides general search in the US?



General Search Providers

Independent vs. Syndicated



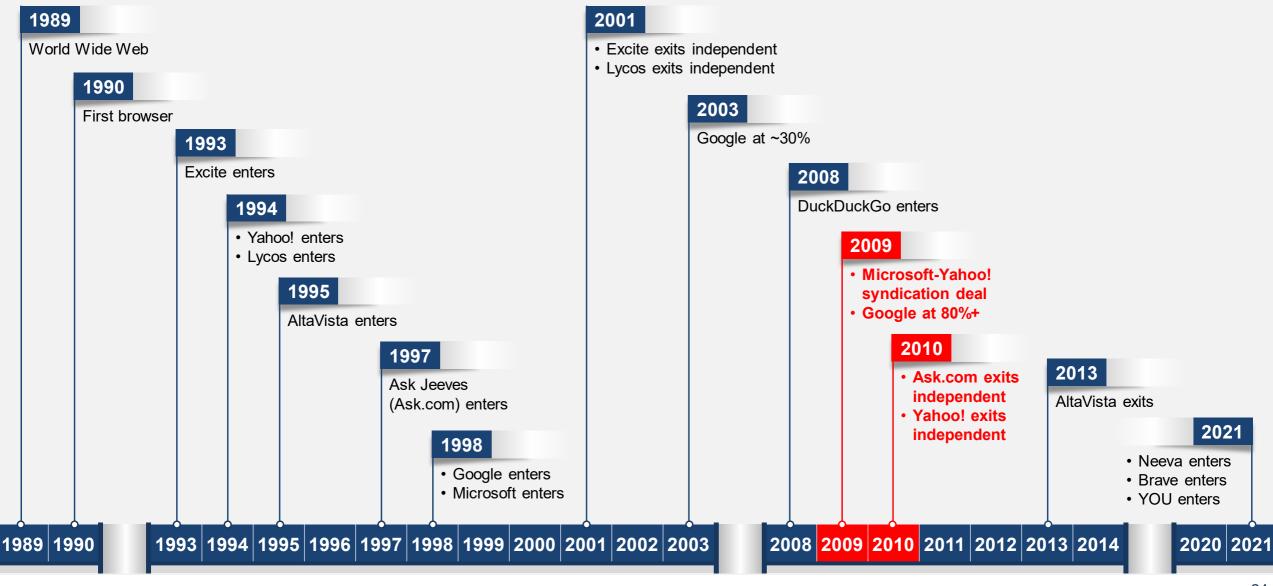
General Search Providers

Microsoft, Yahoo Team Up to Ding Q seattle Scientists say PNI Space Needle wildfires are onors anniversary with a contest to Google With Bing SAFEWAY () D off your first der.* RUSINESS Microsoft, Yahoo team up Internet search partnership sets stage for assault on Google (f) (r) (r) uly 29, 2009 DailyNews SAN FRANCISCO - Microsoft Corp. has finally roped Yahoo Inc. into an Enjoy \$30 off Home | News & Editorial | West TN News | Public Notices | Public Records Internet search partnership, capping a convoluted pursuit that dragged on Help | Your Account | Contact Us | Log In | Subscrib your first for years and setting the stage for them to make a joint assault against the VOL. 124 | NO. 148 | Thursday, July 30, 2009 Home 👍 Like 10K TDN Services dominance of Google Inc. online order.* Microsoft, Yahoo Team Up to Ding Follow 325.8K followers NAME & PROPERTY SEARCH Google With Bing 390 16,442 CUSTOM LIST BUILDER 288 12.823 JESSICA MINTZ and MICHAEL LIEDTKE | AP Technology Writers FORECLOSURE NOTICES 50 1 1 36 rospects that meet your o Recommend 0 Share BUILDING PERMIT WATCH SERVICE BANKRUPTCIES Print | Front Page | Email this story | Comments (0 BUSINESS LICENS UTILITY CONNECTIO DATA DIRECT SAN FRANCISCO (AP) -MARRIAGE LICENSES Get valuable lists e Microsoft Corp. has finally roped Microsoft, Yahoo team up NEIGHBORHOOD REPORT Yahoo Inc. into an Internet Keep an eye on trends and eve search partnership, capping a AHOC convoluted pursuit that dragged CRIME REPORT on for years and setting the stage for them to make a joint assault Public Records against the dominance of Google Tuesday, Sep 06 2023 Inc. AG YOU'RE IT Microsoft Corn annears have locked up rival Yahoo in a long Friday, Sep 02 2022 Thursday, Sep 01 202 awaited Internet search partnership to try The 10-year deal announced and narrow Google Inc.'s lead in the mos Internet search partnership sets stage for assault on Google Wednesday, Aug 31 2023 Tuesday, Aug 30 2022 lucrative piece of the online advertising Wednesday gives Microsoft market. Shown is a Times Square news Forward | Back access to the Internet's secondticker in New York. -- AP FILE PHOTO/MARK Go to date: largest search engine audience, Search Records beefing up the software maker's arsenal as it tries to better confront Google, which is by far the leader in online search and advertising. Public Notices

Sources: J. Mintz & M. Liedtke, *Microsoft, Yahoo Team Up to Ding Google With Bing*, The Memphis Daily News, July 30, 2009, available at https://www.memphisdailynews.com/news/2009/jul/30/microsoft-yahoo-team-up-to-ding-google-with-bing/; *Microsoft, Yahoo team up*, Seattle Pi, July 29, 2009, available at https://www.seattlepi.com/business/article/Microsoft-Yahoo-team-up-552838.php.

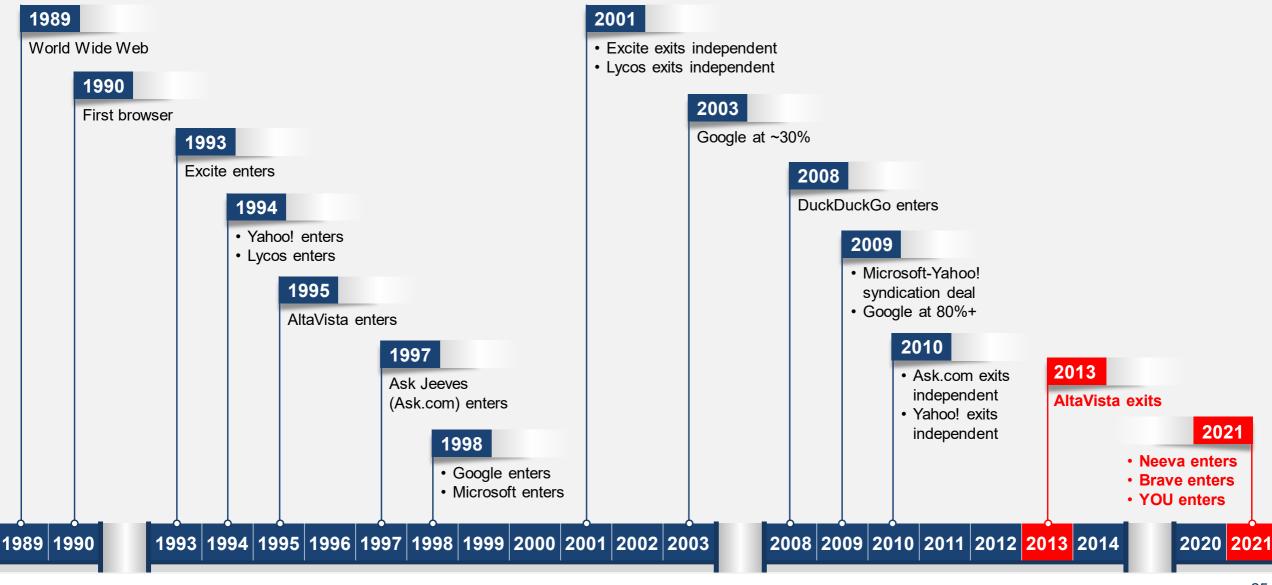


Search Timeline



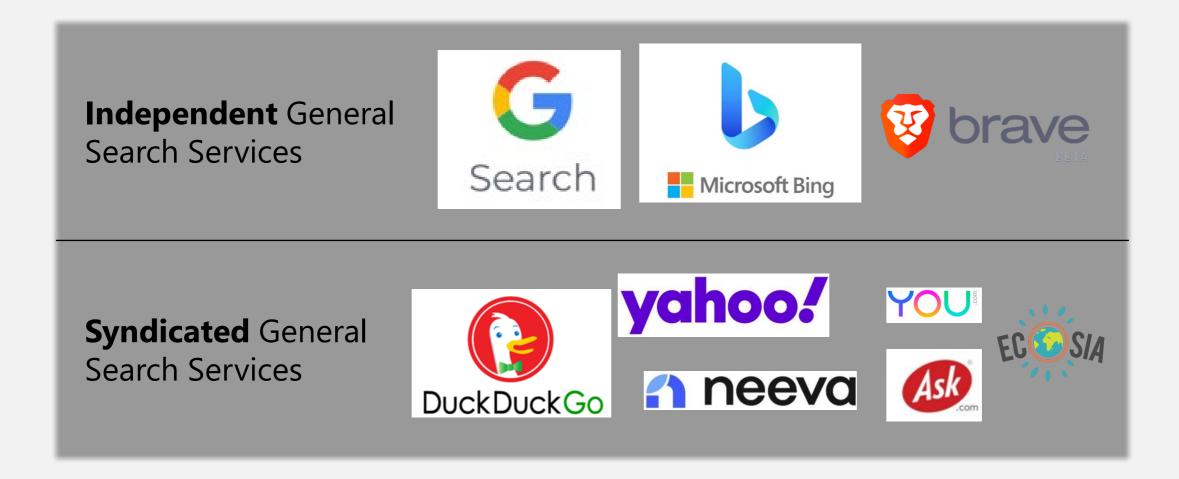


Search Timeline





General Search Providers





General Search Providers



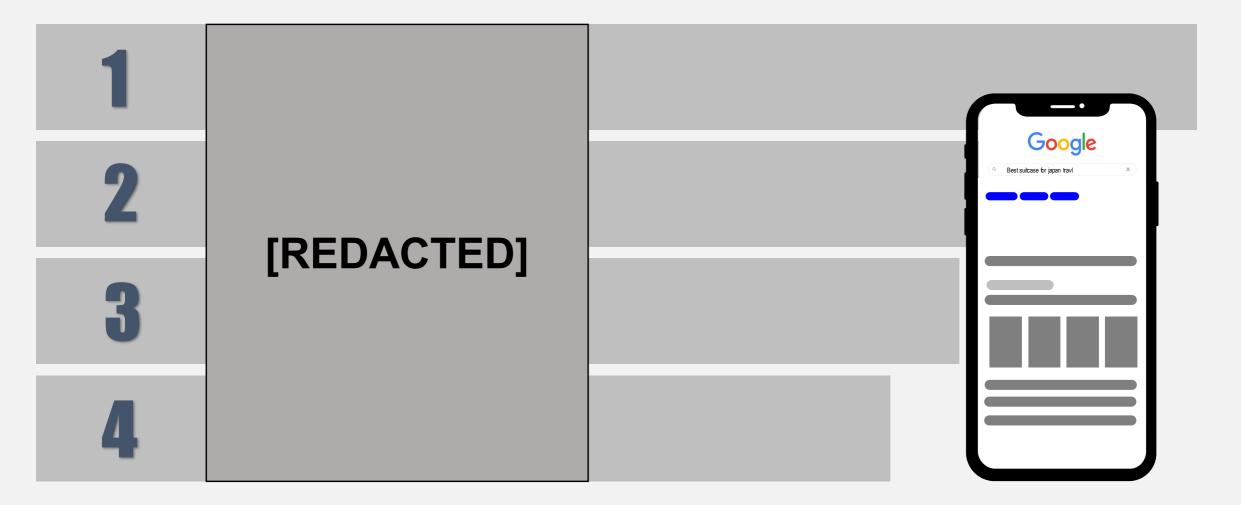
What is *not* a general search engine?



Specialized Search Services & Other Websites

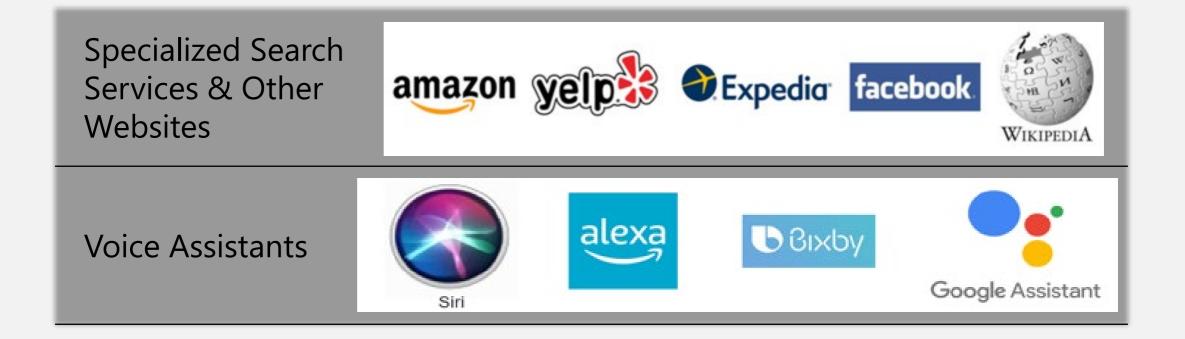




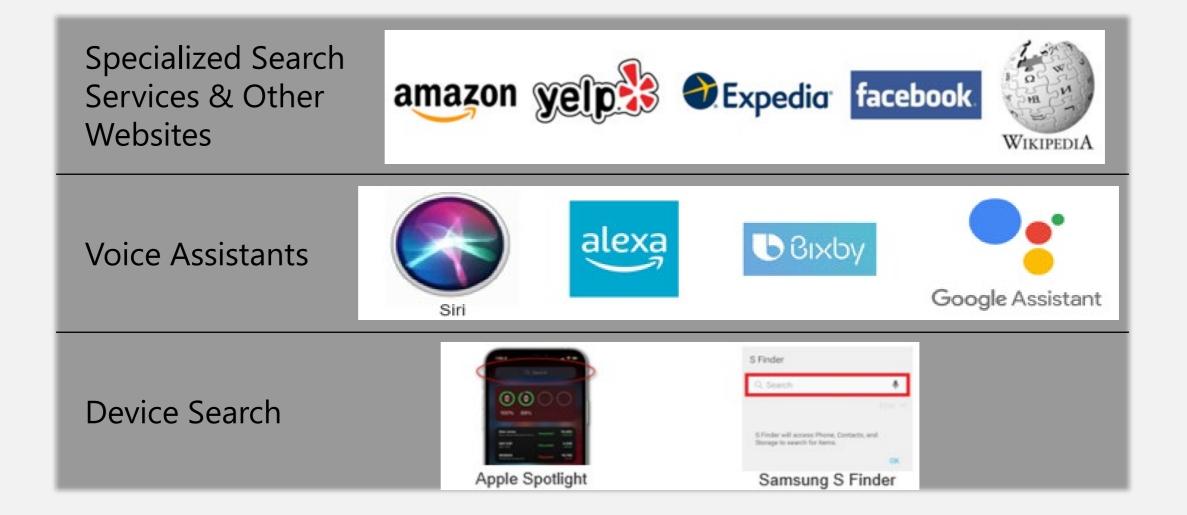


Note: Google data includes advertisers from Google's O&O properties.









Product	AMZN	AAPL	GOOG	FB	MSFT
operating systems	\checkmark	\checkmark	\checkmark		\checkmark
browsers		\checkmark	\checkmark		\checkmark
productivity tools		\checkmark	\checkmark		\checkmark
email and messaging		\checkmark	\checkmark	\checkmark	\checkmark
ebooks	\checkmark	\checkmark	\checkmark		
smartphones and devices	\checkmark	\checkmark	\checkmark		\checkmark
video and music distribution	\checkmark	\checkmark	\checkmark		
streaming video	\checkmark		\checkmark	\checkmark	
video conferencing		\checkmark	\checkmark	\checkmark	\checkmark
home delivery services	\checkmark		\checkmark		
general purpose search engines			\checkmark		\checkmark
special purpose search engines	\checkmark	\checkmark	\checkmark		\checkmark
digital assistants	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark
social networks			\checkmark	\checkmark	
advertising platforms	\checkmark		\checkmark	\checkmark	\checkmark
maps		\checkmark	\checkmark		\checkmark
cloud services	\checkmark		\checkmark		\checkmark

Table 1: Competition among internet companies

Is general search free?



It's free, but . . .

Roadmap



What data does Google collect on the search side?



General Search

Go	ogle		About 73,90 All travele COVID-19 Domestic
Q Covid restrictions in Japan		×	https://jp.us COVID-
Google Search	I'm Feeling Lucky		
	↑		
			https://www
	1		Corona
			1.1.529), va
			status of re
	۱		Europe: Bo

About 73,900,000 results (0.47 seconds)

All travelers permitted to travel to Japan, regardless of age, **must receive a negative COVID-19 test within 72 hours of departure of the international leg of their trip**. Domestic travel prior to the international flight is NOT counted within the 72 hours. 4 days ago

https://jp.usembassy.gov > covid-19-information

COVID-19 Information - U.S. Embassy & Consulates in Japan

About featured snippets • II Feedback

https://www.japan.travel > government-measures

Coronavirus (COVID-19) Travel Restrictions - Japan- Travel

1.1.529), validity of visas already issued by December 2, 2021 is suspended except for the status of residence of "Spouse or Child of a **Japanese** National ...

urope: Bosnia and Herzegovina, Bulgaria, Ky... Africa: Algeria, Angola, Cameroon, Central ...

https://www.mofa.go.jp > fna

Border measures to prevent the spread of novel coronavirus ...

Border measures to prevent the spread of novel **coronavirus** (**COVID**-19). August 26, 2022. **Japanese** ... **Restrictions** on airport/ports for arrival; 7.



General Search

	Japan		
Google Could restrictions in Japan x	User InteractionQueries	Language	
	 Clicks (including 	Location	
	duration) • Hovers • Scrolls	In-session search history	
	Attention	Much more	

How does general search work?

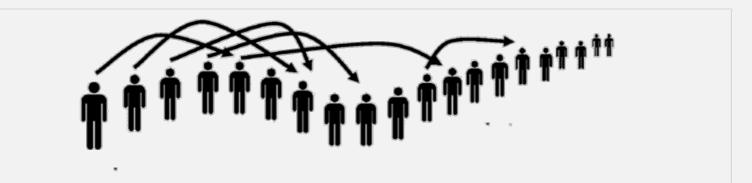


General Search

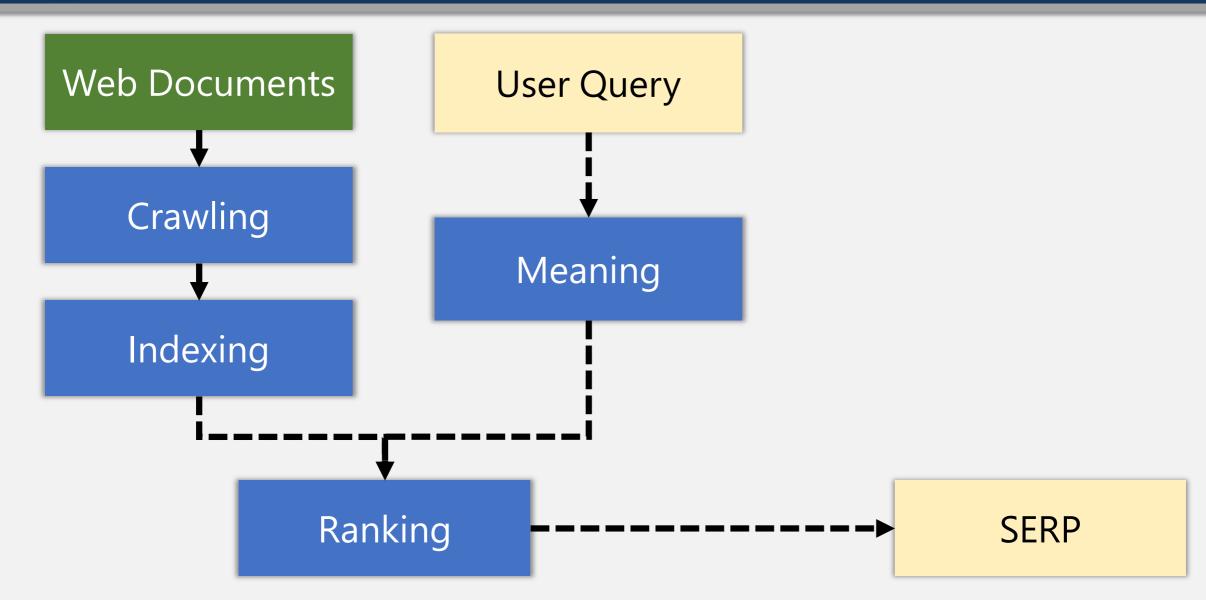
"Every year, there are trillions of searches on Google . . . "



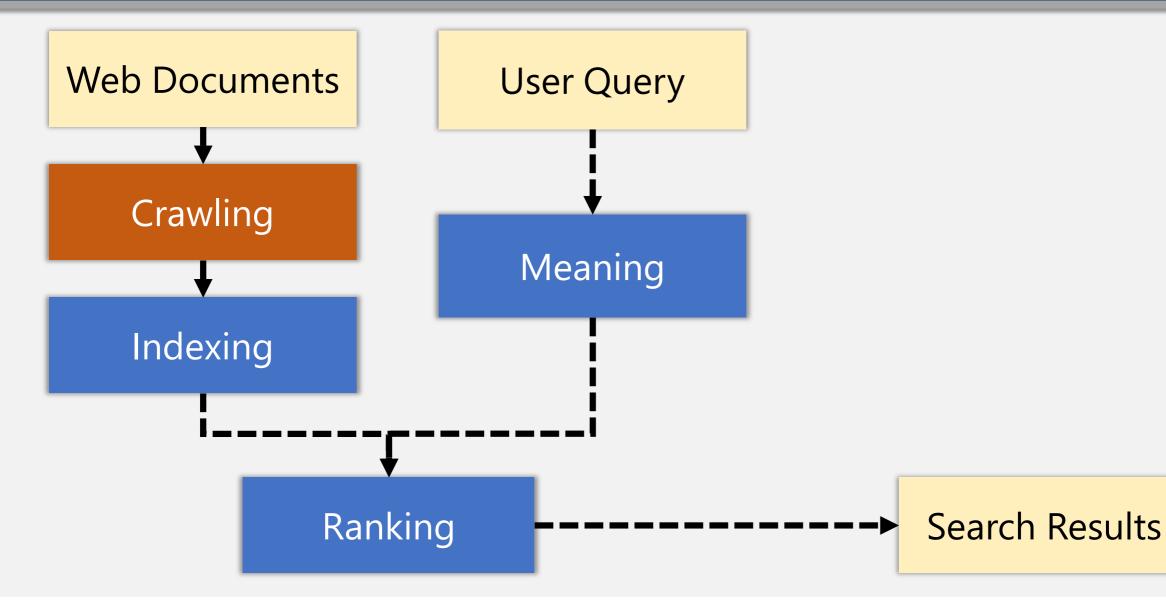
"In effect, Google is a mechanism for transferring knowledge from each user to those who follow."







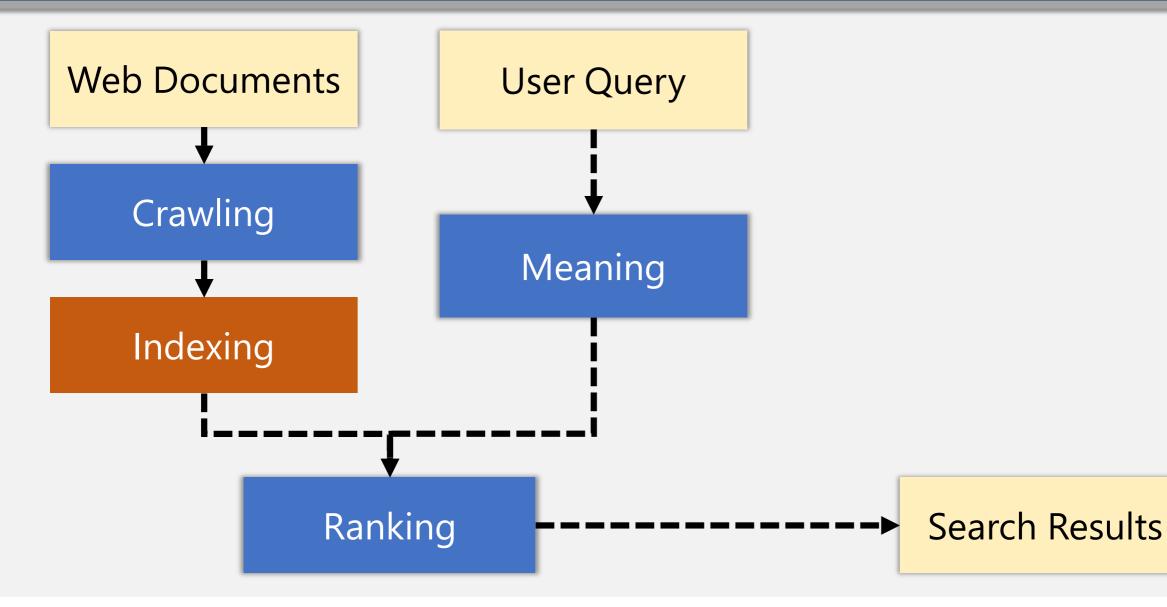




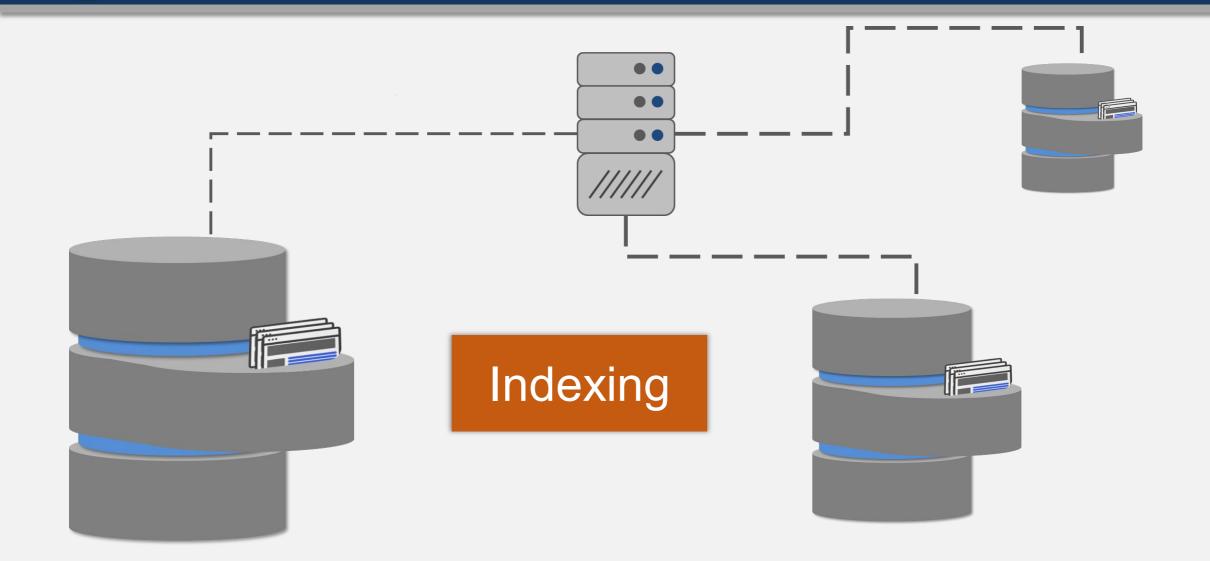




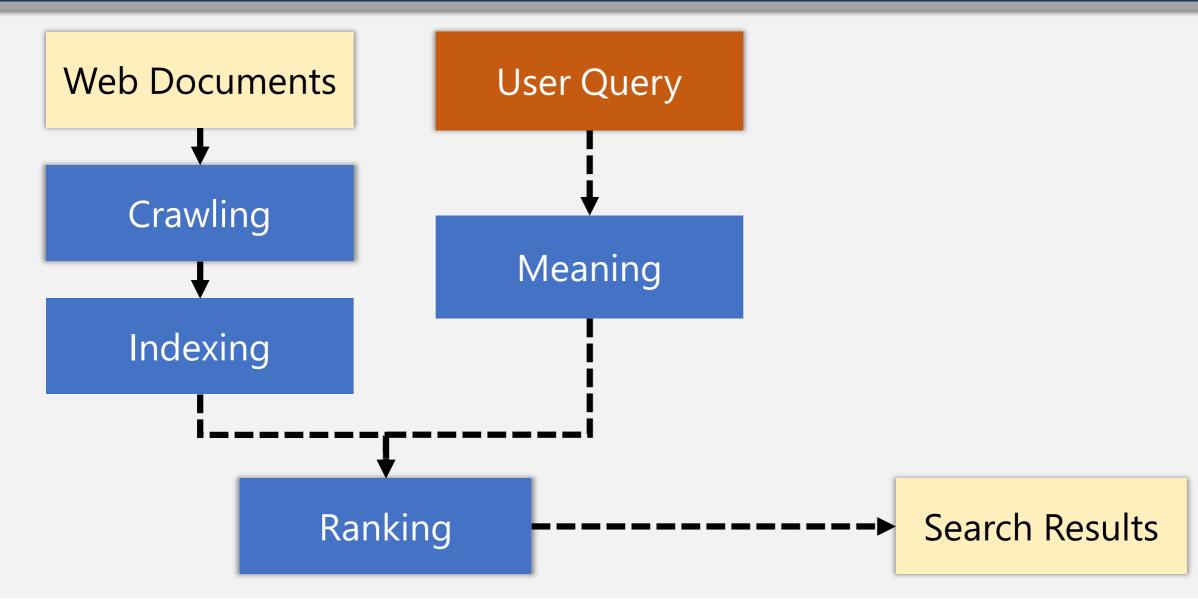












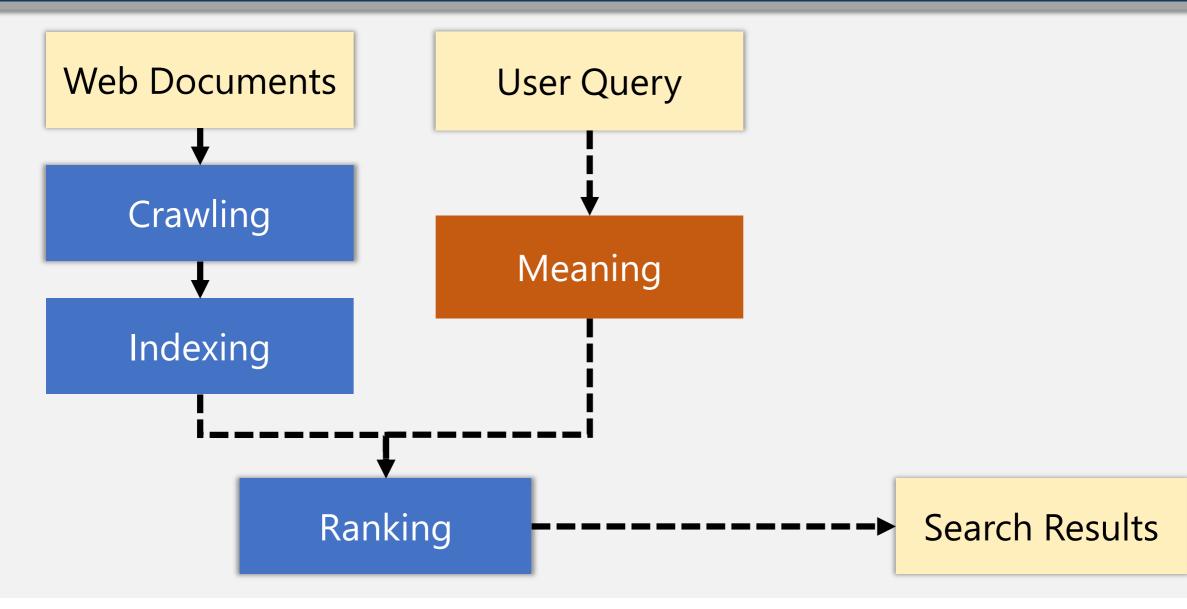






User Query









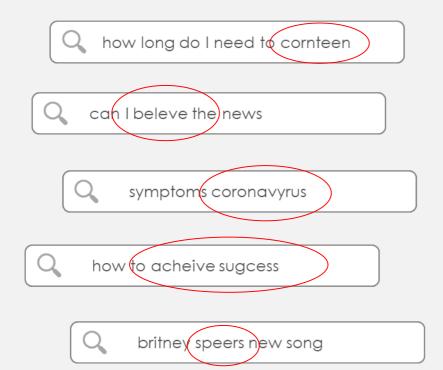
Q where to buy suitcase for japan travl



where to buy suitcase for japan travel

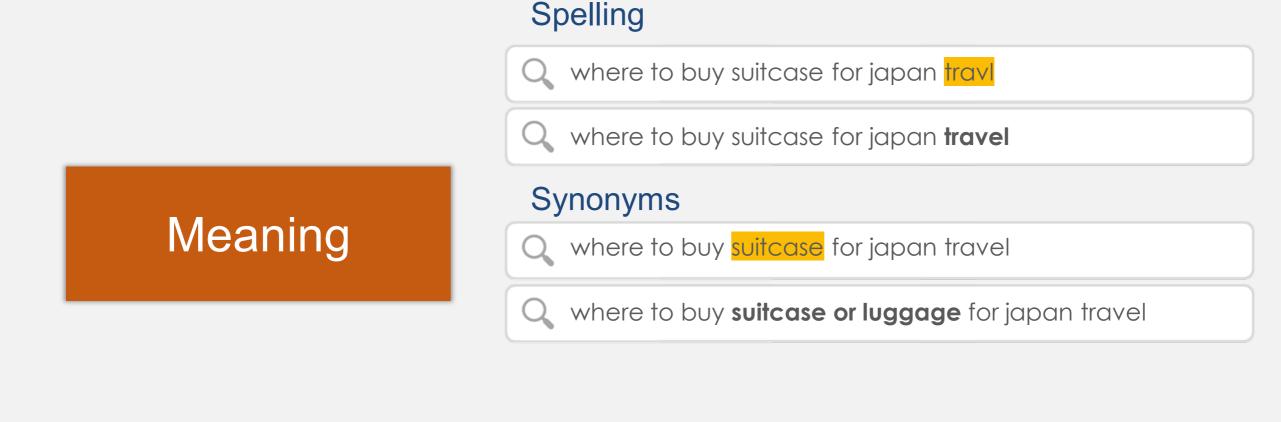






"How? By looking for mistakes. We look at all the ways in which people mis-spell words in queries and text all over the web, and use that to predict what you actually mean."









Spelling

Q where to buy suitcase for japan travl



where to buy suitcase for japan travel

Synonyms

Q where to buy <mark>suitcase</mark> for japan travel

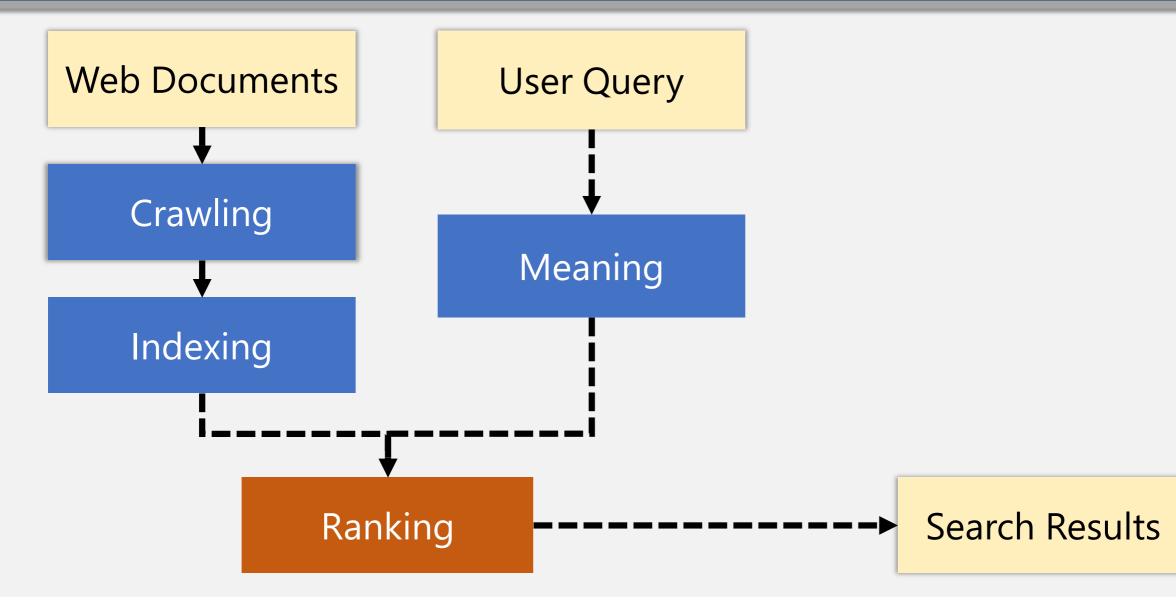
Q where to buy **suitcase or luggage** for japan travel

Location

 \mathbb{Q} where to buy suitcase for japan travel

Q where to buy suitcase for japan travel **near capitol hill**, **dc**







 \times

Googl	e

I'm Feeling Lucky

Q Covid restrictions in Japan

Google Search

About 73,900,000 results (0.47 seconds)

All travelers permitted to travel to Japan, regardless of age, **must receive a negative COVID 10 test within 72 hours of departure of the international leg of their trip**. Domestic travel prior to the international flight is NOT counted within the 72 hours. 4 days ago

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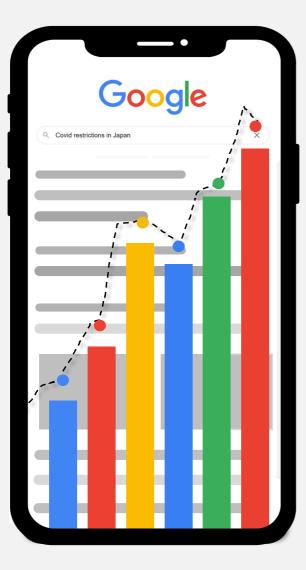
Europe: Bosnia and Herzegovina, Bulgaria, Ky... Africa: Algeria, Angola, Cameroon, Central ...

https://www.mofa.go.jp > fna

Border measures to prevent the spread of novel coronavirus ...

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"[REDACTED]"

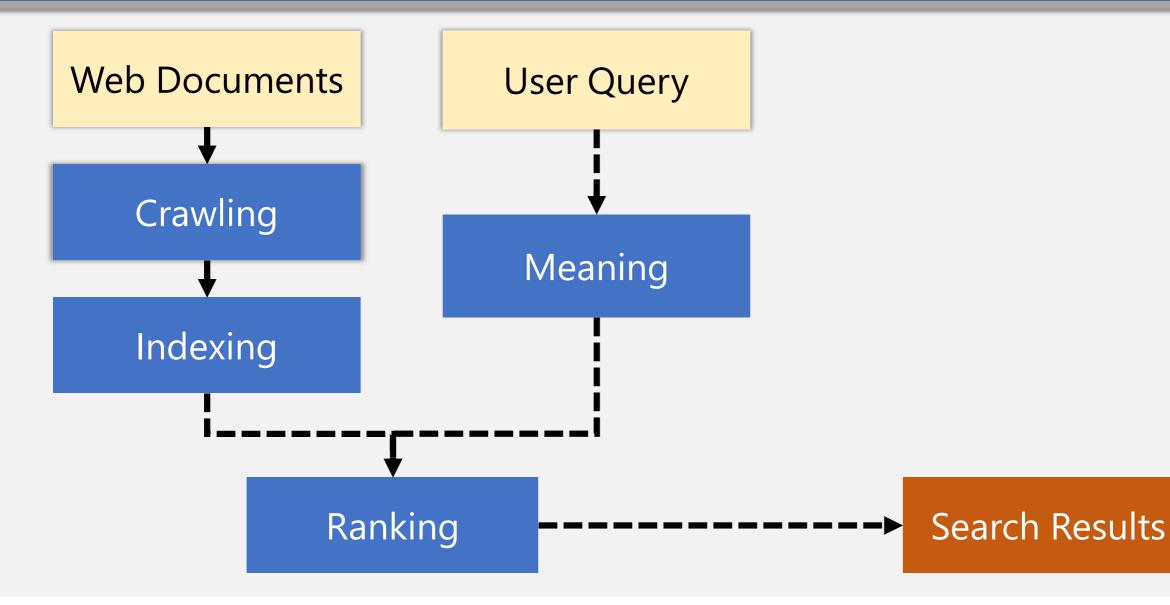




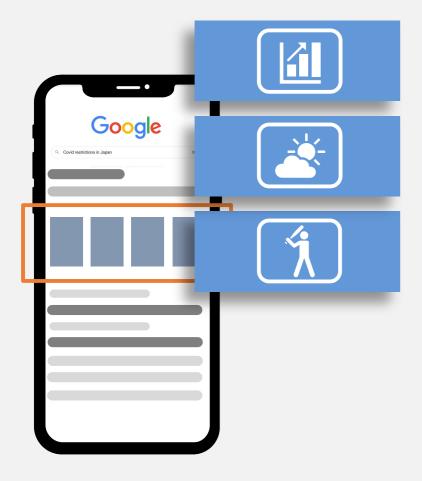


"We can regard each [search] as a massive multiple-choice test. Each day, we get to ask humanity a billion questions of the form, 'Which of these 10 documents is most relevant to your query?' Then some person helpfully answers with a click, which teaches us something about the world."



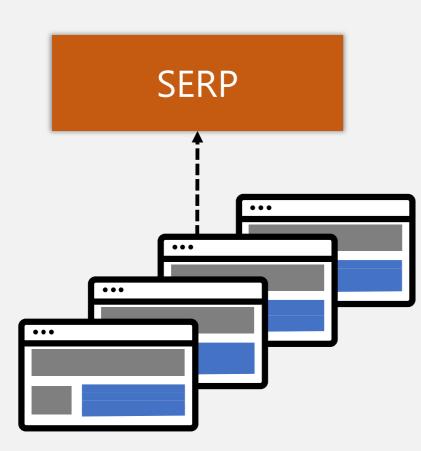






Other Data



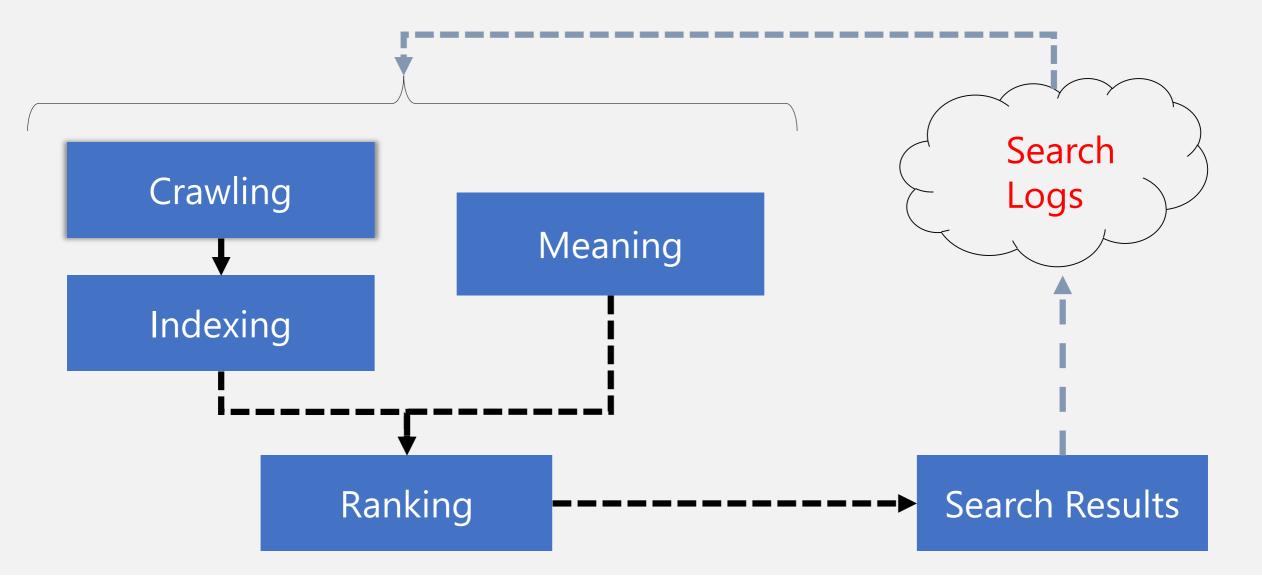


Google Tracest suitcase for japan tavel \times About 10,800,000 results (0.74 seconds) Showing results for best suitcase for japan travel Search instead for best suitcase for japan travl Japanese Luggage Recommendations • Samsonite Winfield 2 Hardside Luggage with Spinner Wheels 20 Inch. • Samsonite Omni PC Hardside Expandable Luggage with Spinner Wheels 24 Inch. • Samsonite Solyte DLX Softside Expandable Luggage with Spinner Wheels 20 Inch. More items... https://www.pretraveller.com > best-travel-bag-luggage-ja... Best Travel Bag and Luggage for Your Japan Trip - Pretraveller About featured snippets • II Feedback https://sightseeandsushi.com > Travel > Japan Guide To Choosing The Best Bag For Traveling Japan

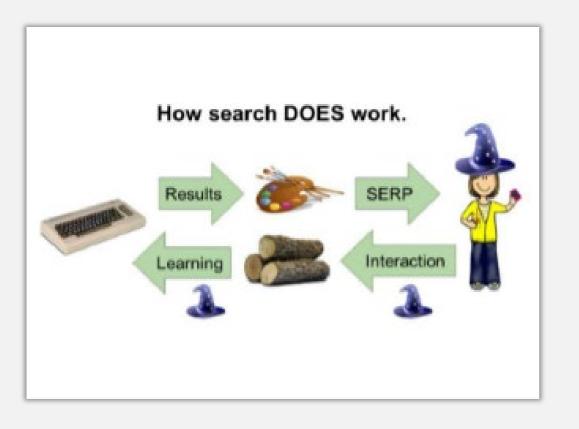
Nov 30, 2020 - The best luggage for Japan travel is the one that's easily carried, such as a backpack or a duffel bag. · Train stations in Japan have a lot of ... The worst type of Travel Bag to ... · Best Travel Bags for Japan











"The key is that there is a second flow of information in the reverse direction. As people interact with the search results page, their actions teach us about the world. For example, a click here means the image was better than the web result. A long look there means the KP was interesting. We log these actions, and then scoring teams learn from them."



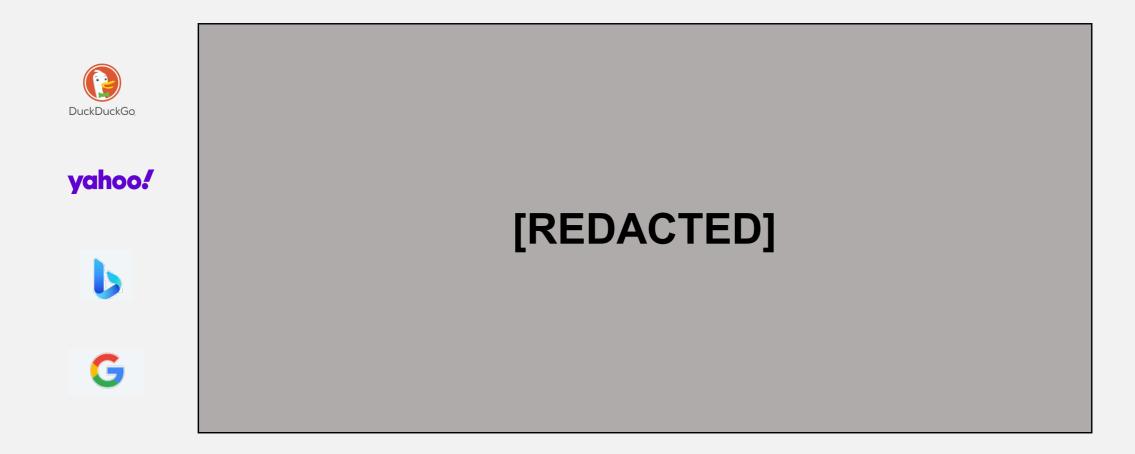
General Search

Queries		
Head	Occur most frequently	
Torso	Occur somewhat less frequently	
Tail	Occur only rarely	

What is scale?



What is Scale?

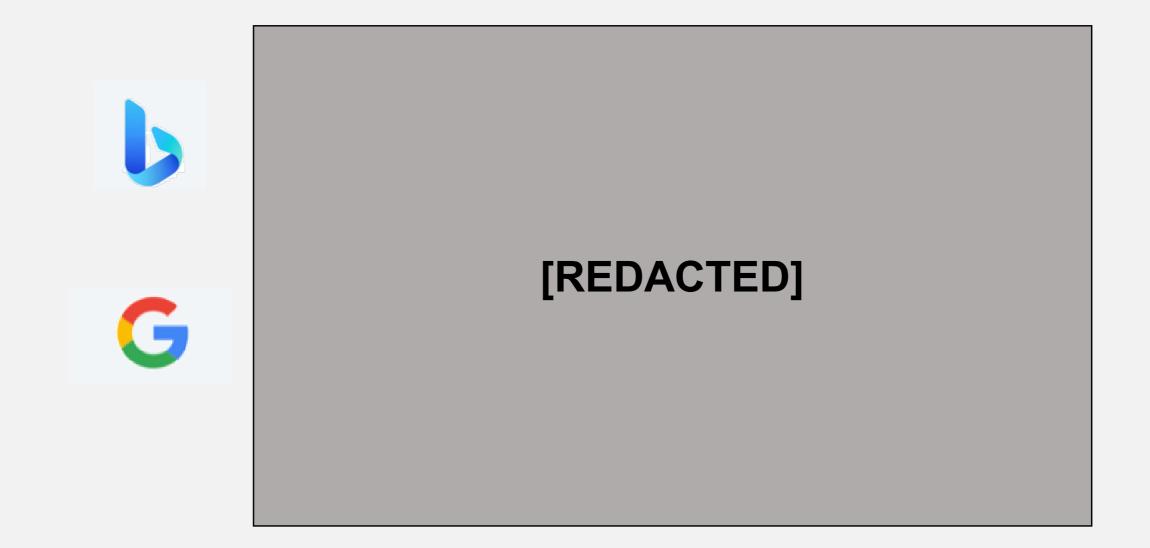


One Year's Worth of Search Queries Based on Market Share

Source: Google QueryNav data (DOJ RFP 2.70), Google Syndication data (DOJ RFP 5.15), Microsoft aggregate search statistics data (DOJ RFP 1.39), StatCounter Global Stats. (2020 Data). 67



What is Scale?



Source: Google QueryNav data (DOJ RFP 2.70), Google Syndication data (DOJ RFP 5.15), Microsoft aggregate search statistics data (DOJ RFP 1.39), StatCounter Global Stats. (2020 Data). 68





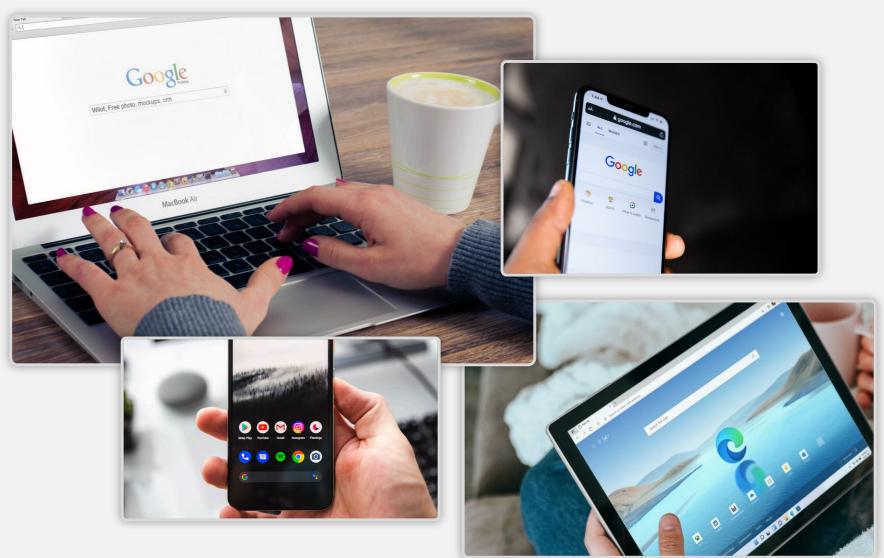


How do consumers access general search?



Search Distribution

Accessing General Search



What is a search access point?

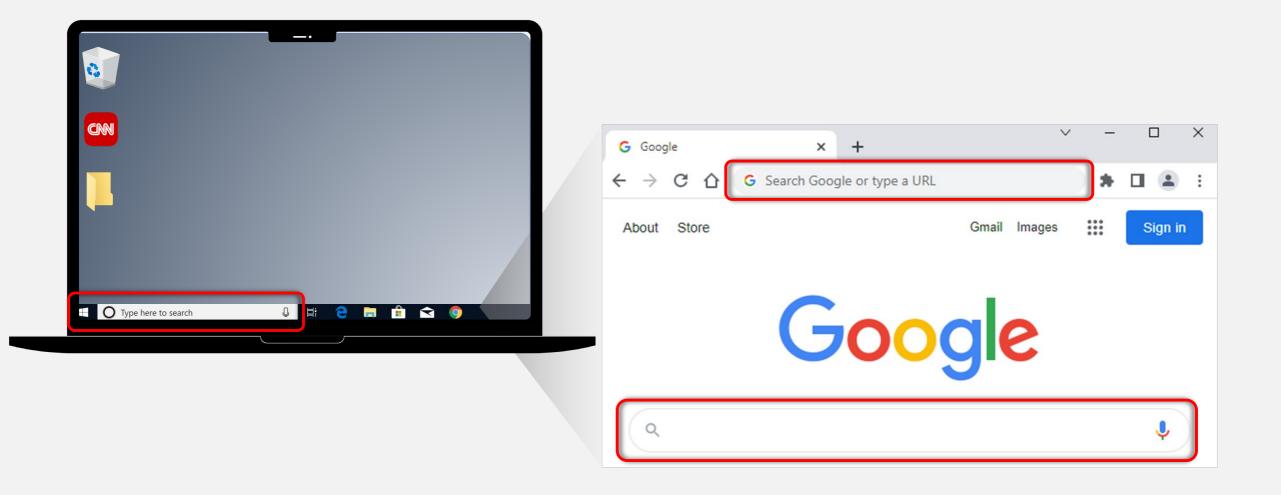


Search Access Points

A search access point is a place on a computer or mobile device where a user can enter a query.

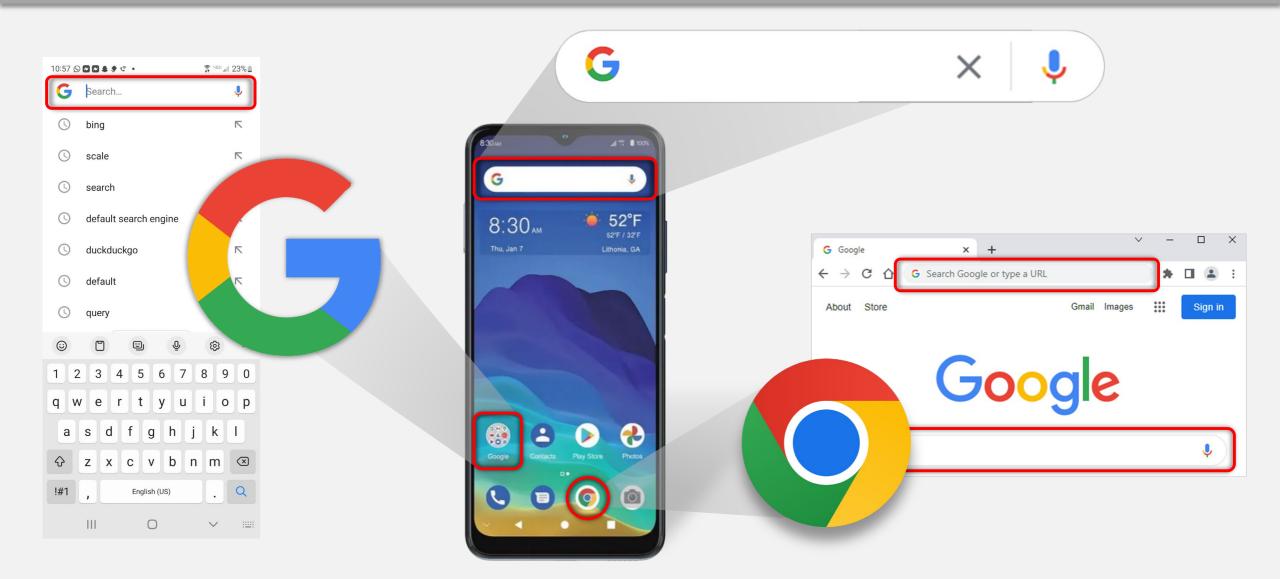


Search Access Points





Search Access Points



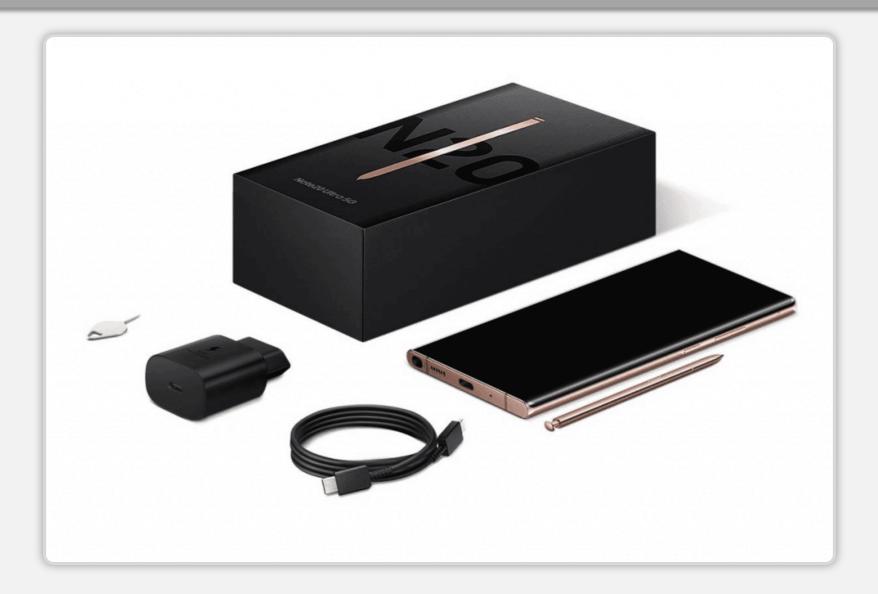
What is a default search engine?



The search engine that a distributor programs a search access point to automatically send queries to out of the box.



Defaults



Why are search defaults important?



"Default home page can be a powerful strategic weapon in the Search battle Could be an easy way to grow and defend market share for Google"

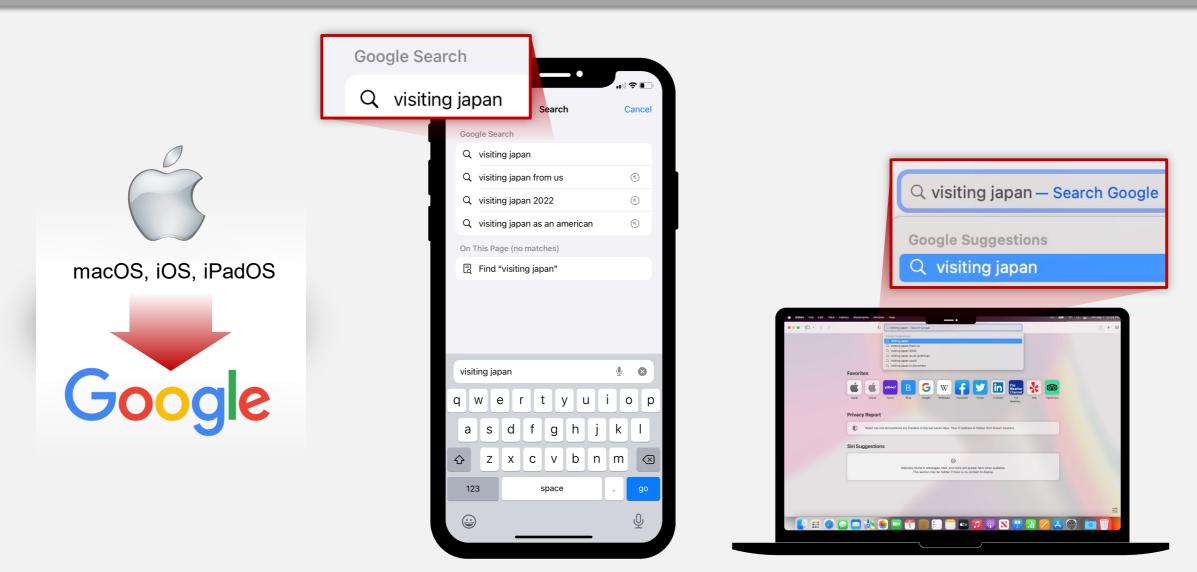


"tyranny of the default"

Which general search engines are defaults?



Apple Search Defaults





Android Search Defaults







Windows Search Defaults



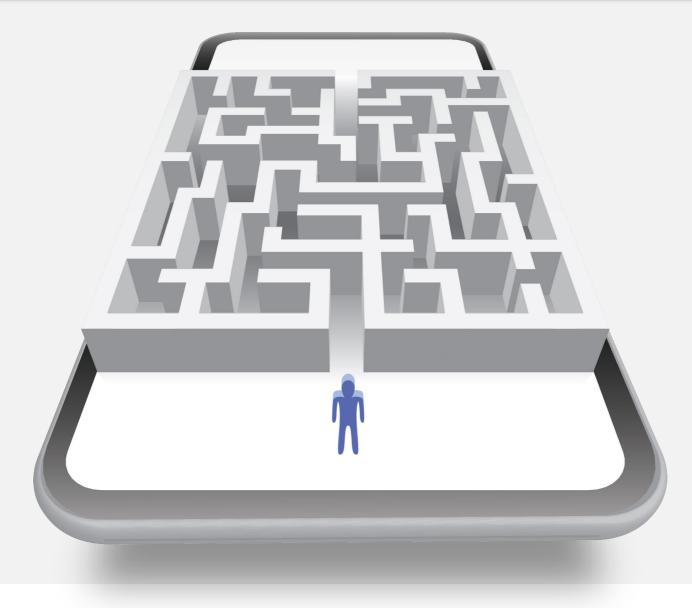
What is a *user-selected* default search engine?



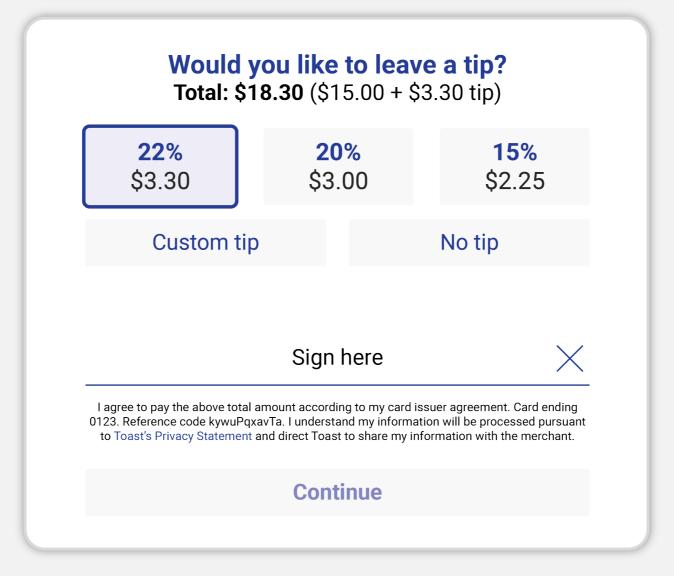
The search engine that a user sets a search access point to automatically send queries to.

How sticky are search defaults?







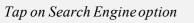






Leave browser app

5:12	
Settings Safar	1
ALLOW SAFARI TO ACCESS	
🛐 Siri & Search	>
Search Engine	Google >
Search Engine Suggestic	
Safari Suggestions	
Quick Website Search	On >
Preload Top Hit	•
About Salari Search & Privacy!	
GENERAL	•
Favorites	
Block Pop-ups	0
Extensions	
Downloads	iCloud Drive >
TABS	





Open Settings app



Select desired search engine



Scroll to locate Safari tab



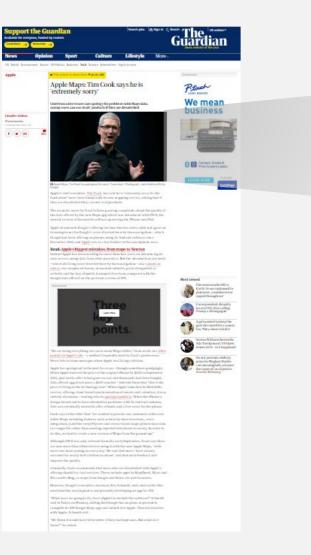
Navigate back to Safari app

 Safari Search Engine Google Yahoo 	
Yahoo	
Bing	
DuckDuckGo	
Ecosia	









Apple Maps: Tim Cook says he is 'extremely sorry'

Chief executive issues rare apology for problems with Maps data, saying users can use rivals' products if they are dissatisfied



93

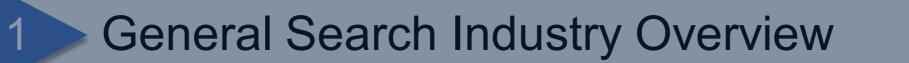


Default Search Recover Assumptions

[REDACTED]



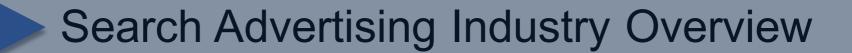












How is Google the exclusive default search engine on Apple?

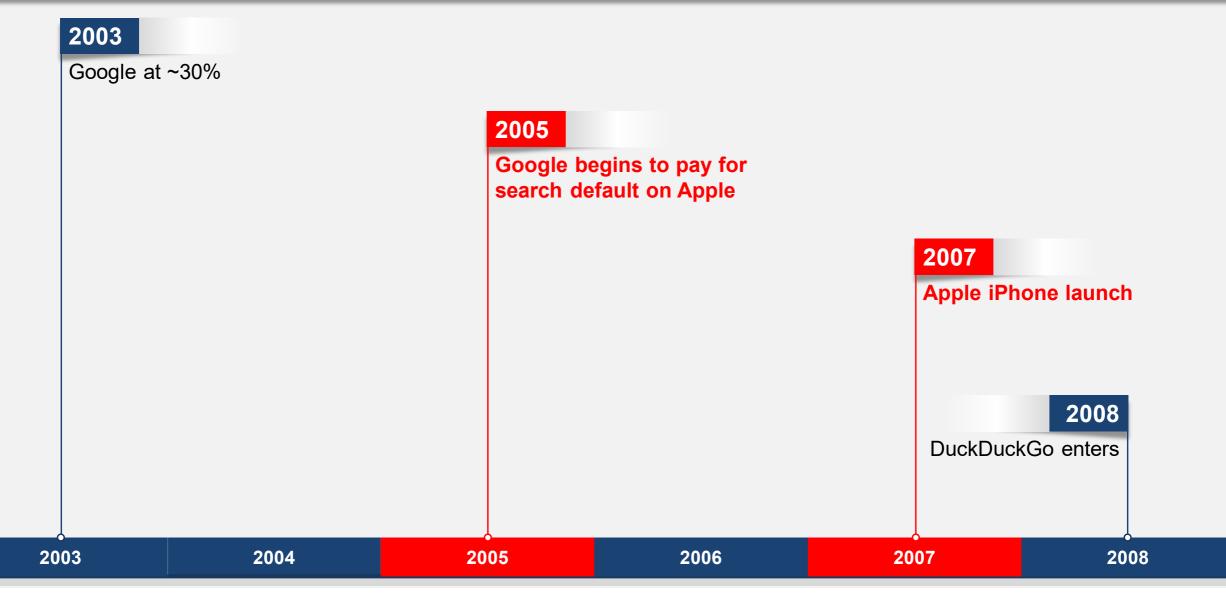








Timeline of Events













Q. And why are GSA and Chrome not preinstalled on Apple mobile devices?

- A. We don't install any third-party apps. Never have on iOS.
- **Q.** . . . [S]ince 2007, Apple has never preinstalled or preloaded any third-party applications on an iPhone, correct?
- A. That's correct.

Apple

- **Q.** What type of value would Apple require if it decided that it was going to . . . preload third-party applications on iPhones? . . .
- **A.** There is none. We would never do it.

How is Google the exclusive default search engine on Android?

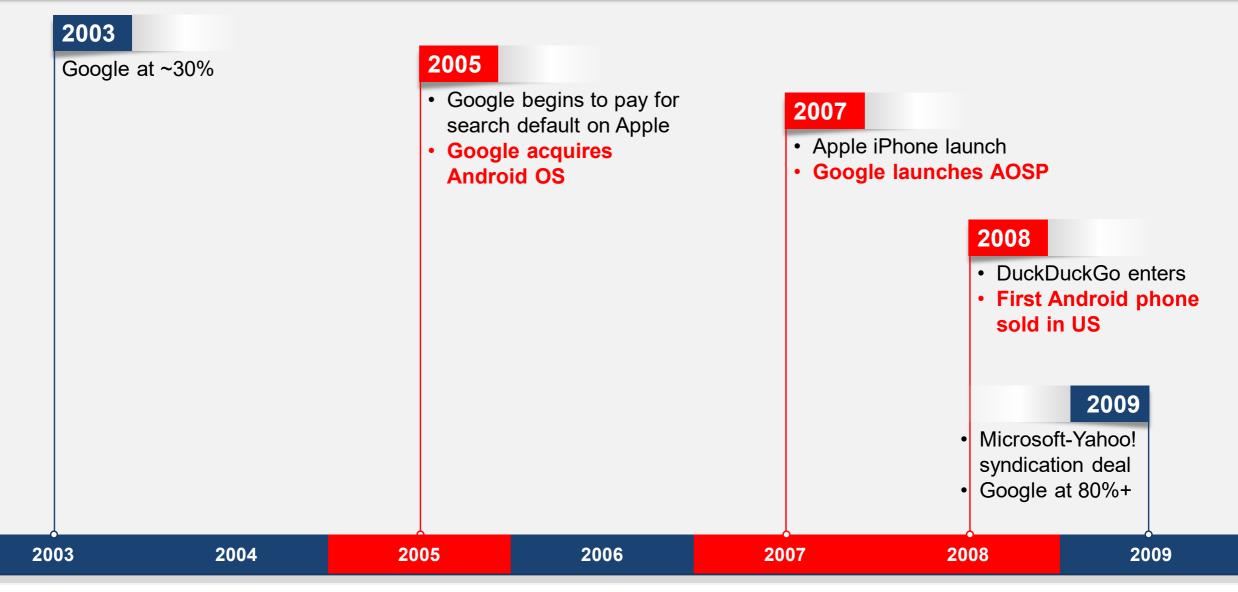


Android





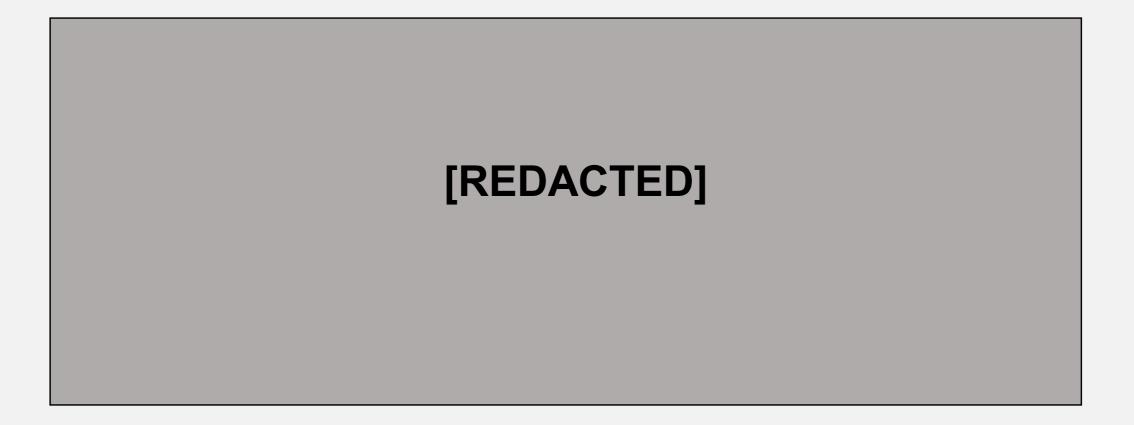
Timeline of Events





Android

"[REDACTED]"







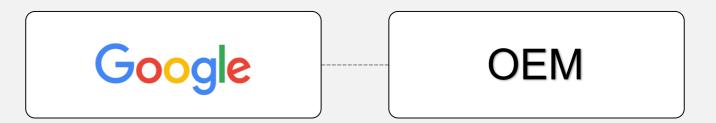


Google's Android Distribution Partners



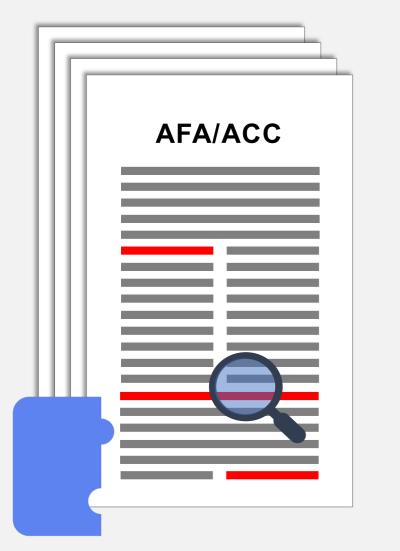






- Anti-Fragmentation Agreement
- Android Compatibility
 Commitment



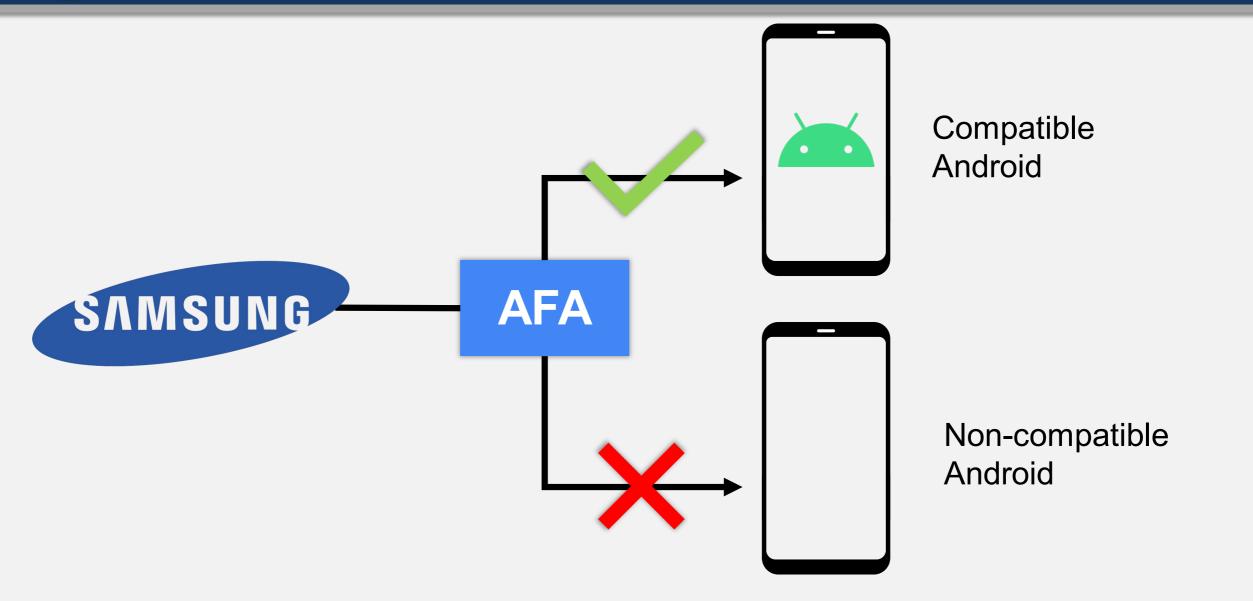


WHAT DO THEY PROVIDE?

- OEMs only make/sell compatible
 Android devices
- Google must approve devices
- Prohibits "fragmentation" of Android (AFAs)

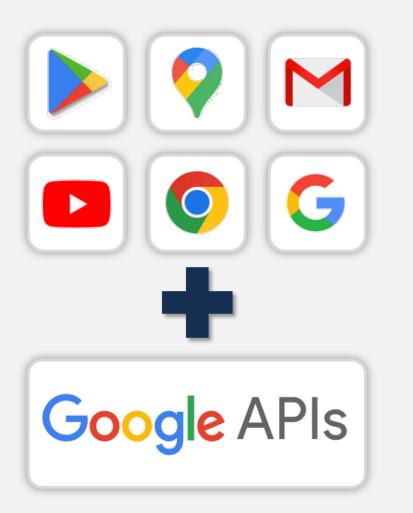


Android Distribution Contracts





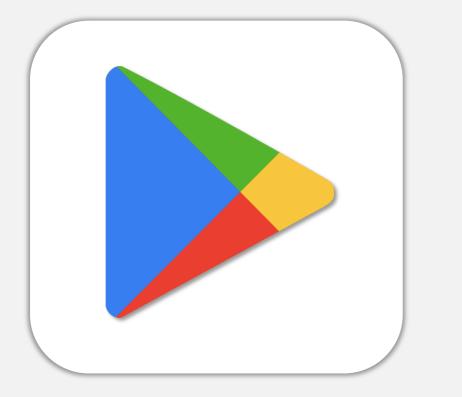
Android



Google Mobile Services (GMS)

- Google proprietary apps
 - o Google Search App
 - o Chrome
 - o Google Play
 - Google Maps
 - YouTube
 - o Gmail
- Google proprietary APIs





Google Play Store

- Google's proprietary app store
- Largest Android app collection
- o Proprietary APIs



Android

Google Search App

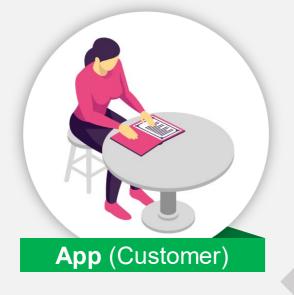
Google Search Widget







Android



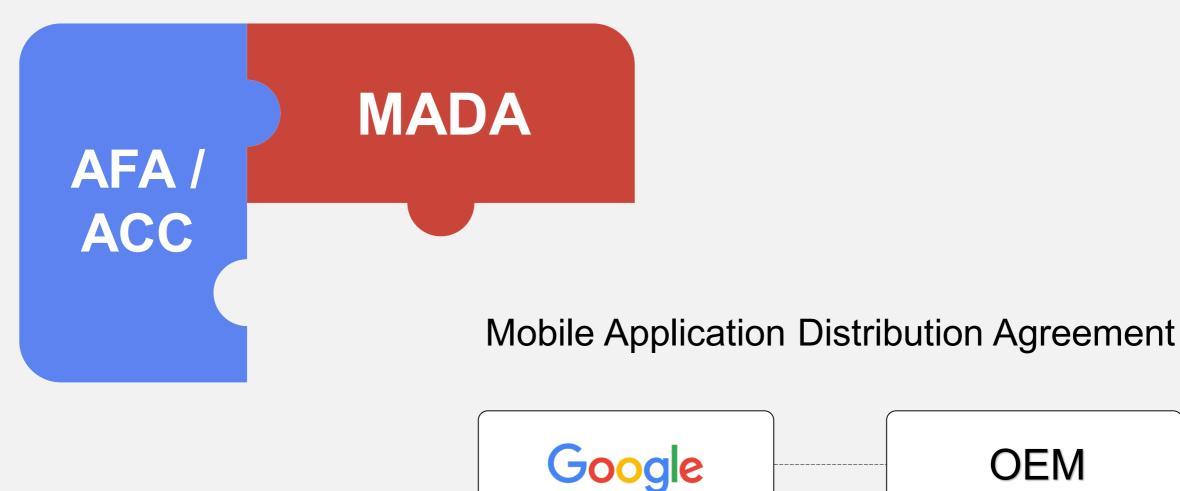
Google APIs





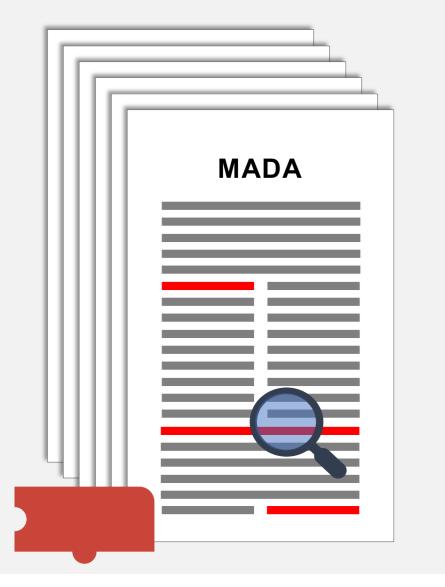


Android Distribution Contracts









WHAT DOES IT PROVIDE?

- A GMS license
- If the OEM preinstalls any Google app, the OEM must:
 - preinstall a suite of Google apps
 - give apps prominent placement, e.g., Google Search widget on the home screen
 - make 6 core apps undeletable



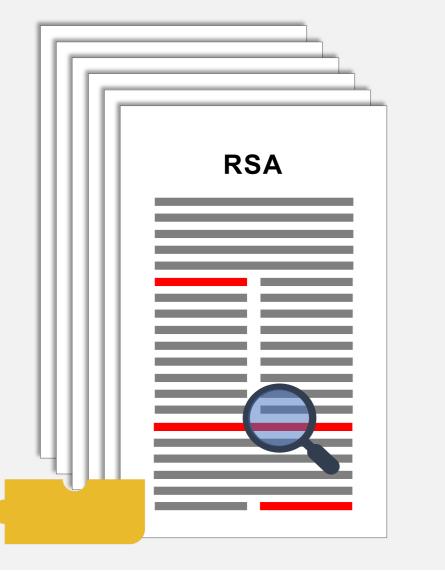
Android Distribution Contracts





Revenue Share Agreement





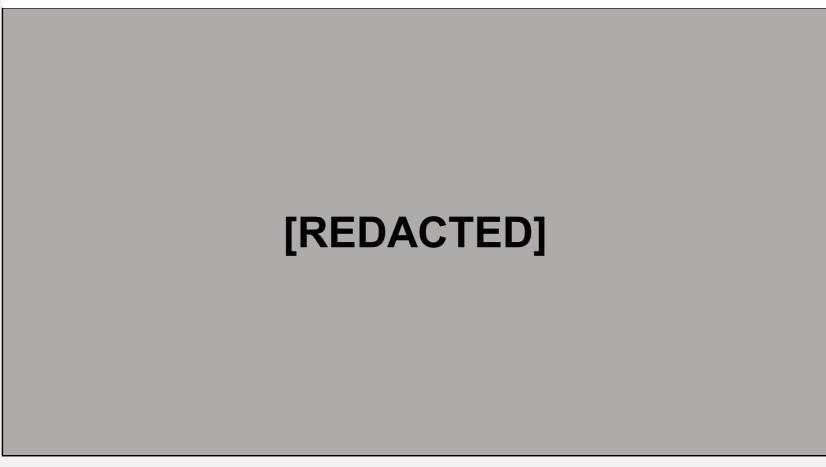
WHAT DOES IT PROVIDE?

For a share of search ad revenue, MNO/OEM must:

- make Google exclusive search default
- install search-related Google apps with prominent placement
- exclude "alternative search services"



Google payments under RSAs by partner type (US)





Android Distribution Contracts





Defaults



Sundar Pichai Google CEO Q. And Google pays rev share on a specific device type if it gets exclusivity on default out of the box, right?

A. That's my understanding, yes.

Is Google the exclusive default search on other browsers?









Browsers



Timeline of Events

2007

- Apple iPhone launch
- Google launches AOSP

2008

- DuckDuckGo enters
- First Android phone sold in US
- Chrome launches on PC

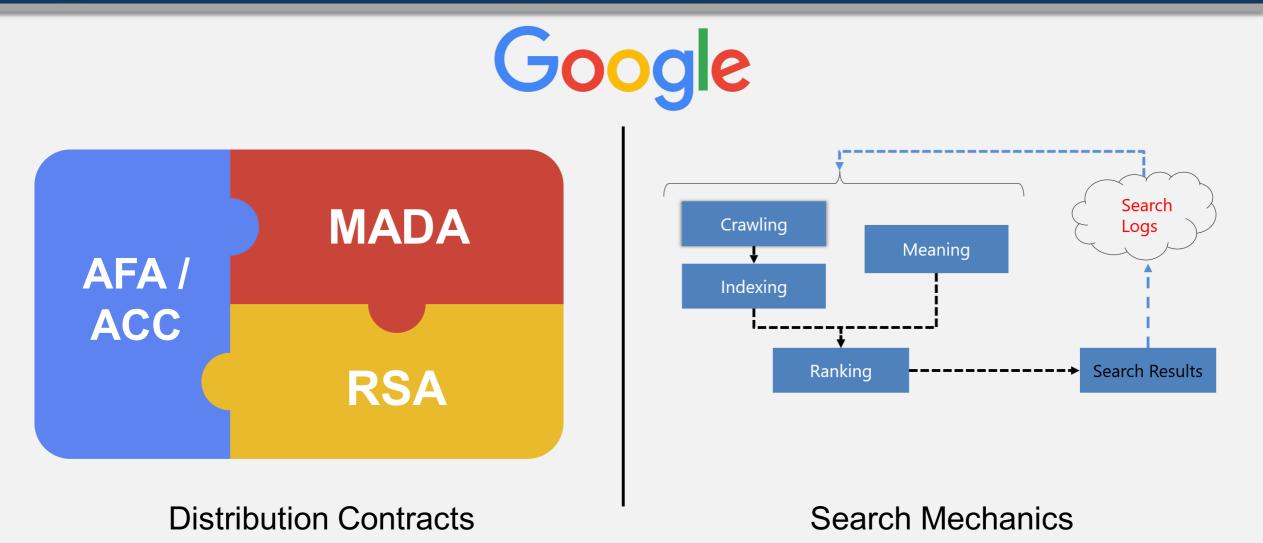
2009

- Microsoft-Yahoo! syndication deal
- Google at 80%+





General Search





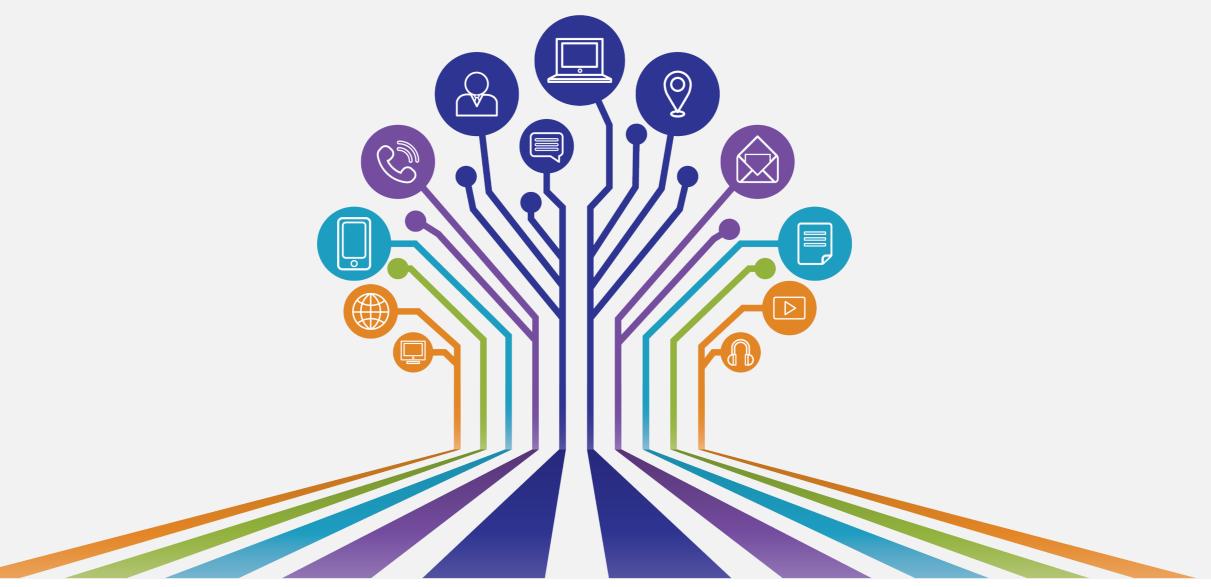




What is advertising?



Advertising Channels





Advertising Channels

Total Media Ad Spending, by Media *US, 2021, billions*

\$65.66 vspaper \$10.41	
vspaper \$10.41	
\$10.41	
nazina	
gazine	
\$9.90	
lio	
\$10.83	
-of-home	
\$7.08	
ectories	
.71	

eMarketer | InsiderIntelligence.com

Digital Ad Spending, by Format *US, 2021, billions*

Display	\$118.72
Search	\$86.43
Lead Generation \$2.84	
Classifieds and Directories \$2.38	
Email \$0.54	
Source: eMarketer, March 2022	eMarketer InsiderIntelligence.com

What advertising markets do the US Plaintiffs allege?



Search Ads

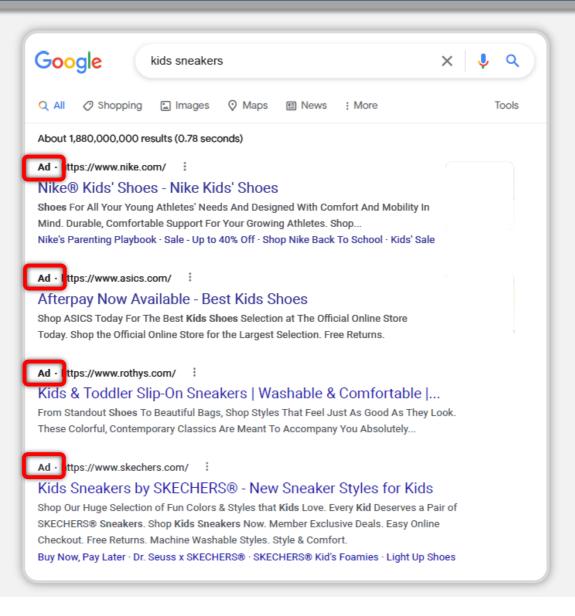
Markets Alleged

General Search Text Ads (Text Ads):

Ads consisting primarily of text and appearing on a general search engine's results page in response to a real-time query.



Text Ads





Search Ads

Markets Alleged

General Search Text Ads (Text Ads):

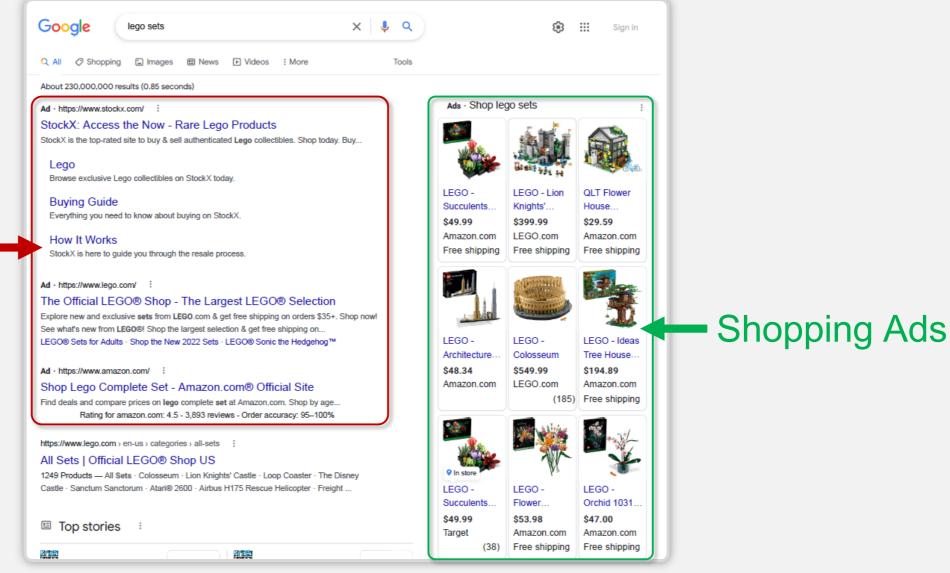
Ads consisting primarily of text and appearing on a general search engine's results page in response to a real-time query.

Search Ads:

Any ads appearing on any search engine's results page in response to consumer's real-time query (including Text Ads).



Search Ads

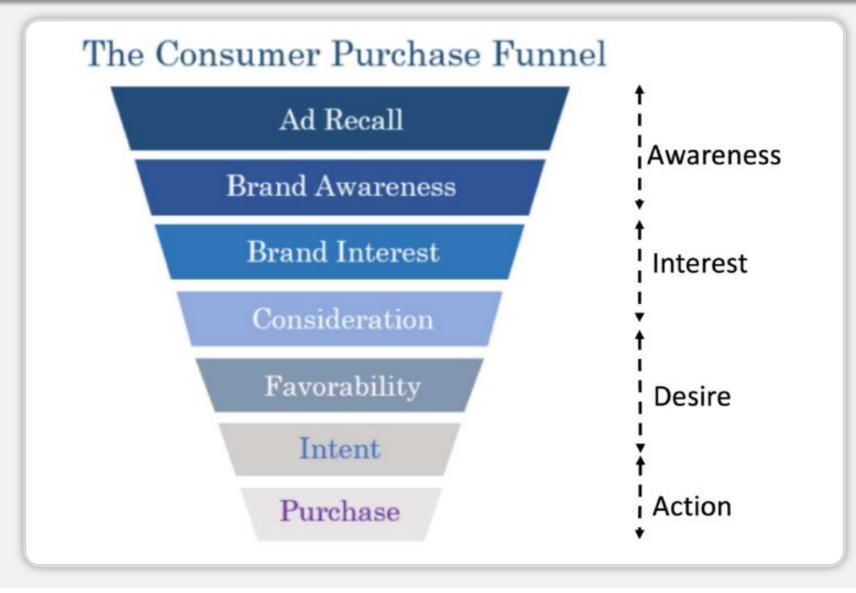




What channels do advertisers use and why?

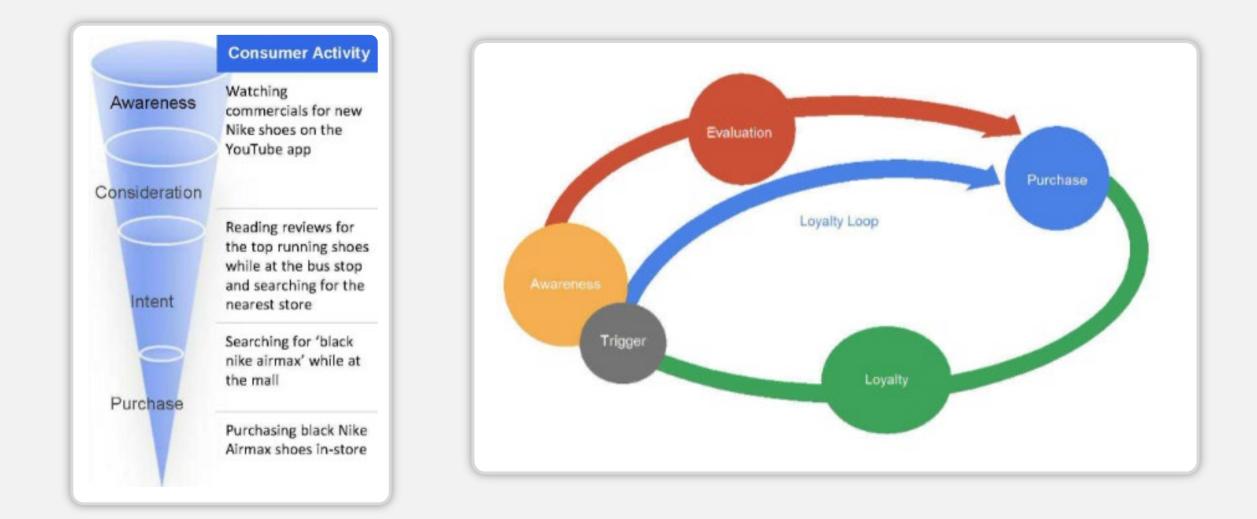


The Consumer Purchase Funnel



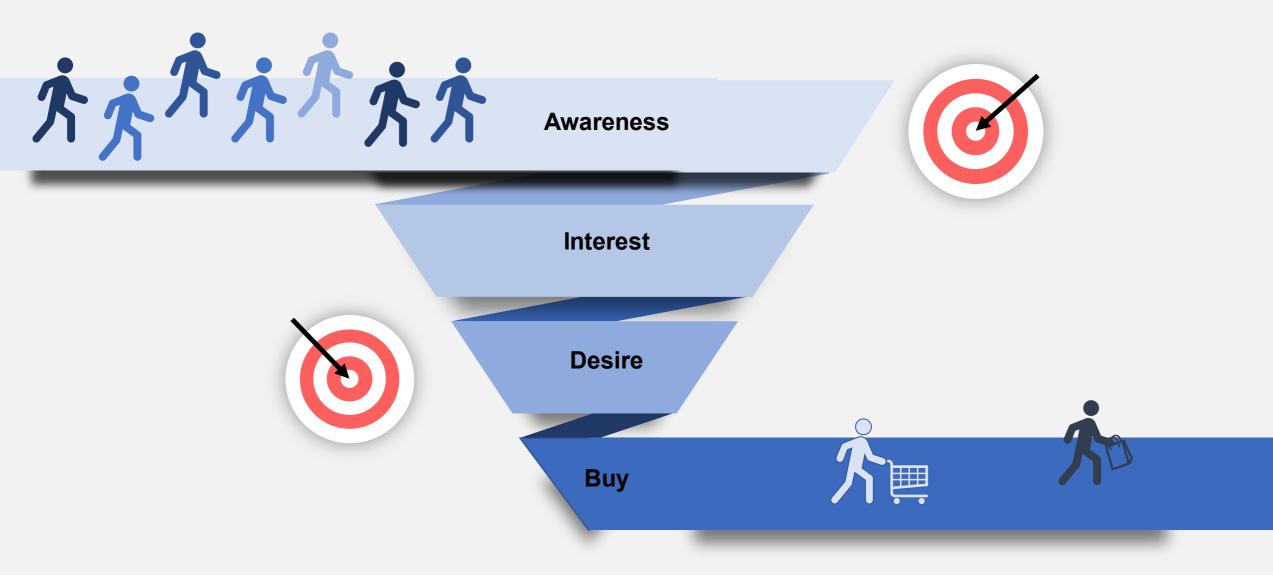


The Consumer Purchase Funnel





Advertiser Objectives







 Increase awareness of brand

- 2) Increase engagement with brand /product
- 3) Increase favorability of brand/product
- 4) Increase purchases of product





1) Increase awareness of brand

2) Increase engagement with brand /product

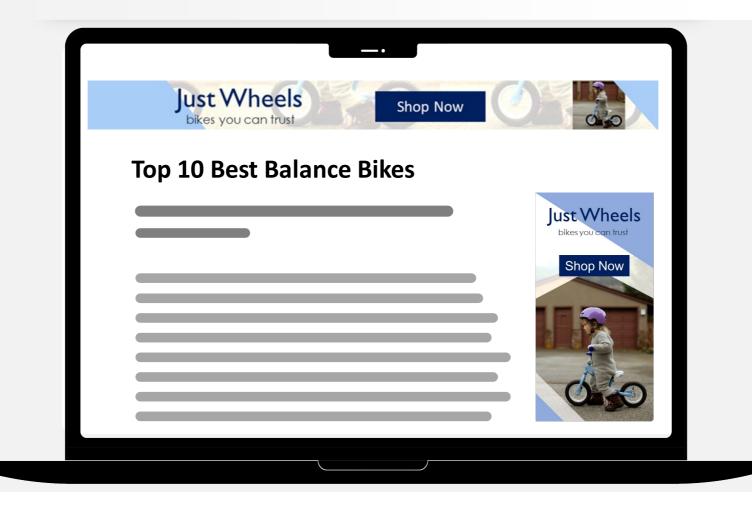
3) Increase favorability of brand/product

4) Increase purchases of product





Objective 1: Increase awareness of brand







 Increase awareness of brand

2) Increase engagement with brand /product

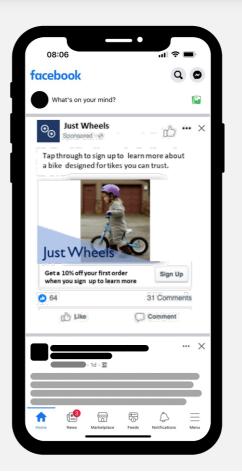


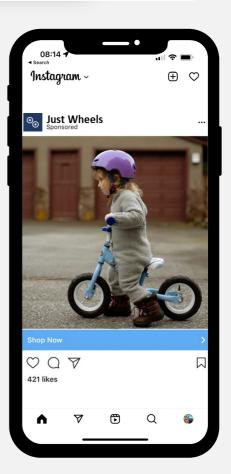
- 3) Increase favorability of brand/product
- 4) Increase purchases of product



Objective 2: Increase engagement with brand/product

fa	ce	bc	
		9	









I) Increase awareness of brand

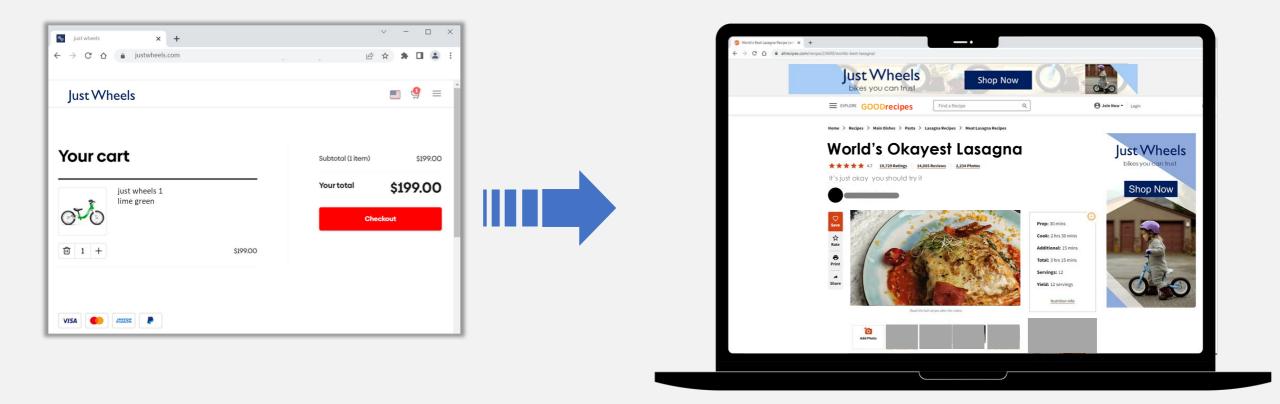
2) Increase engagement with brand /product

3) Increase favorability of brand/product



4) Increase purchases of product

Objective 3: Increase favorability of brand/ product











- 1) Increase awareness of brand
- 2) Increase engagement with brand /product
- 3) Increase favorability of brand/product
- 4) Increase purchases of product



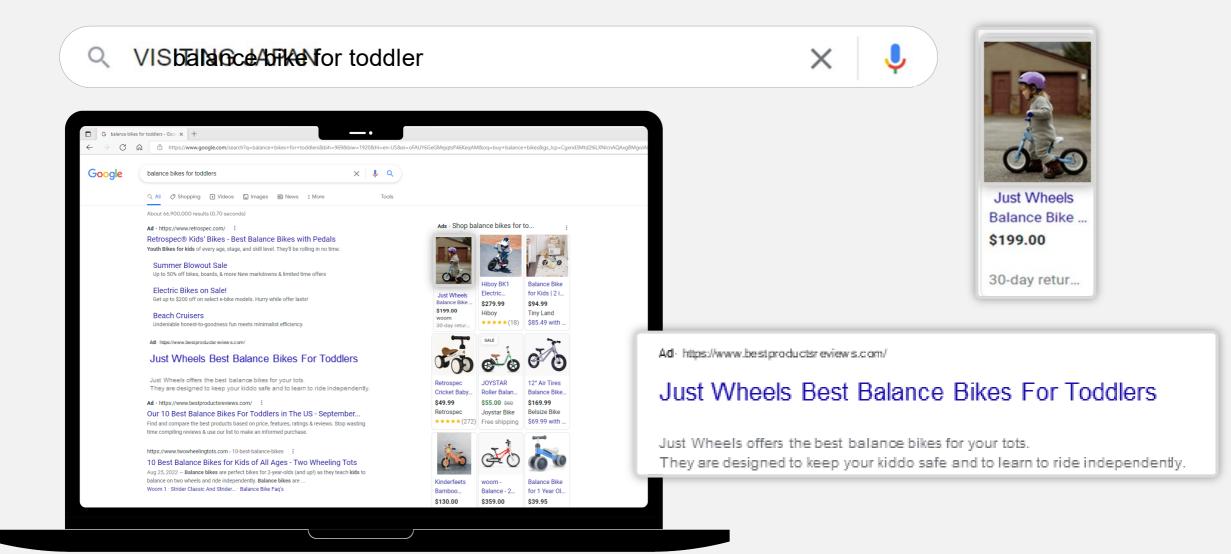
What are Search Ads?





Search Ads are those served in response to a consumer's real-time query on a general or specialized search engine.













- 1) Increase awareness of brand
- 2) Increase engagement with brand /product





3) Increase favorability of brand/product



4) Increase purchases of product







01 Text Ads

02 Other types of Search Ads





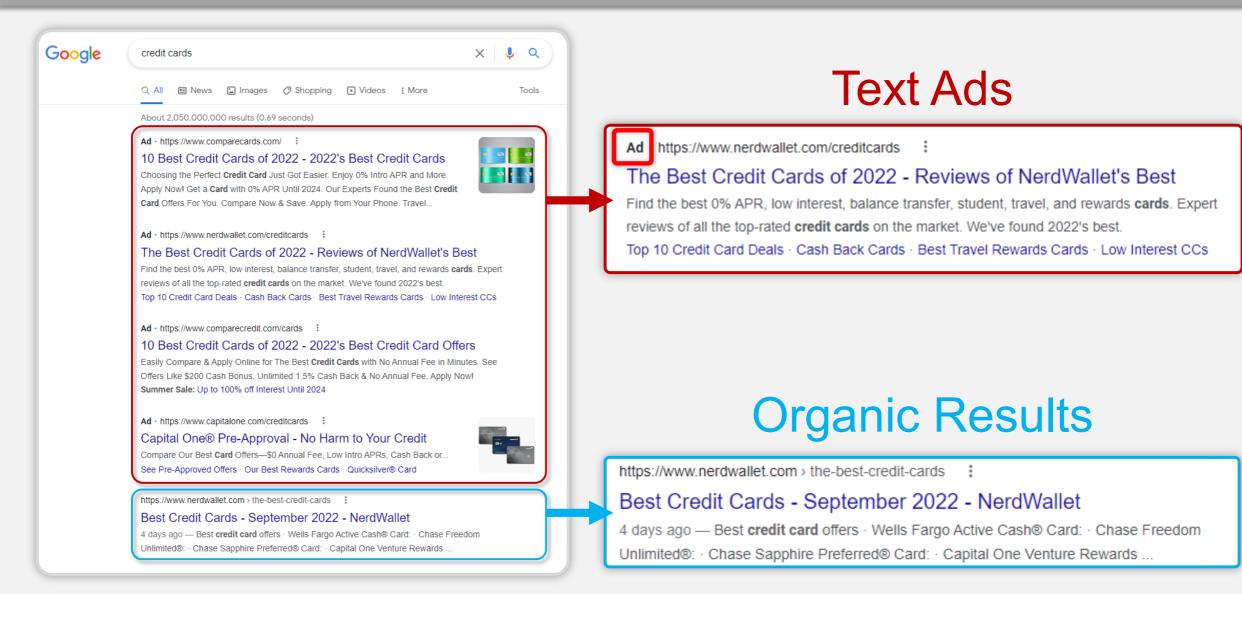
01 Text Ads

Other types of Search Ads

What are Text Ads?



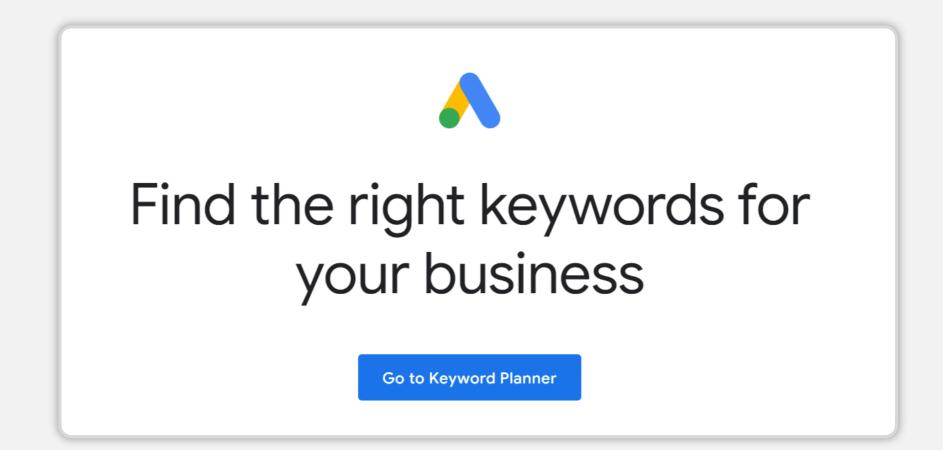
Text Ads



How are Text Ads sold?

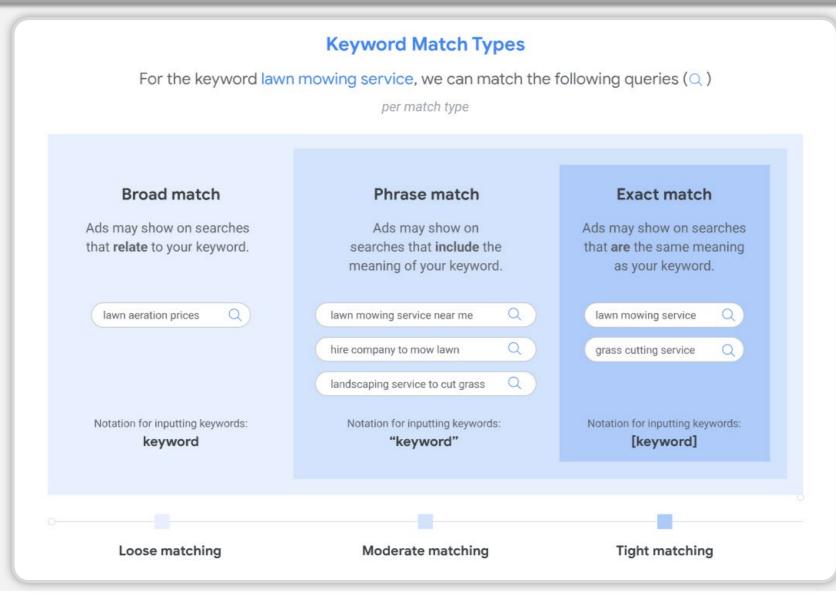








Text Ads

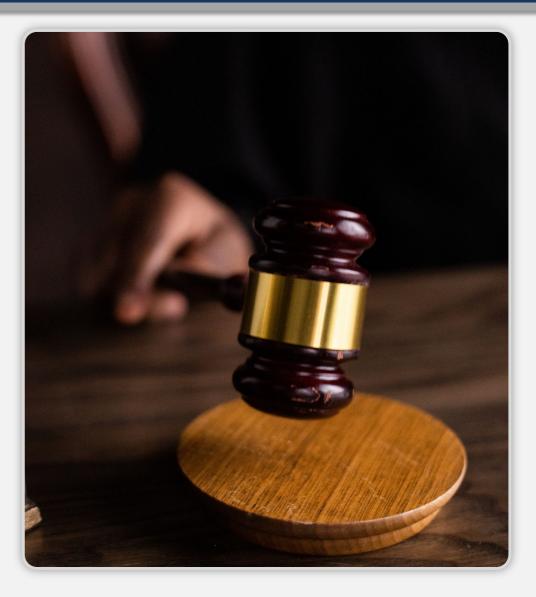


Source: Google Ads Help, available at https://support.google.com/google-ads/answer/7478529?hl=en





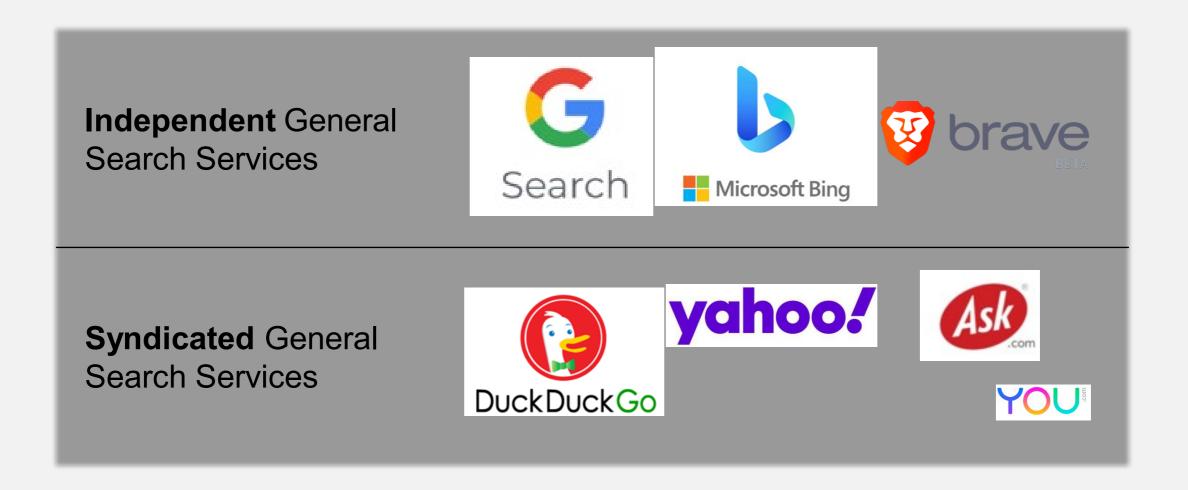
- Real-Time Auctions
- Real-Time Bidding



Who shows Text Ads in the US?







What is Google's market share of Text Ads in the US?



Text Ads Market Share

Search Text Advertising Market Shares (US)







Text Ads

02 Other types of Search Ads

What are the other types of Search Ads?

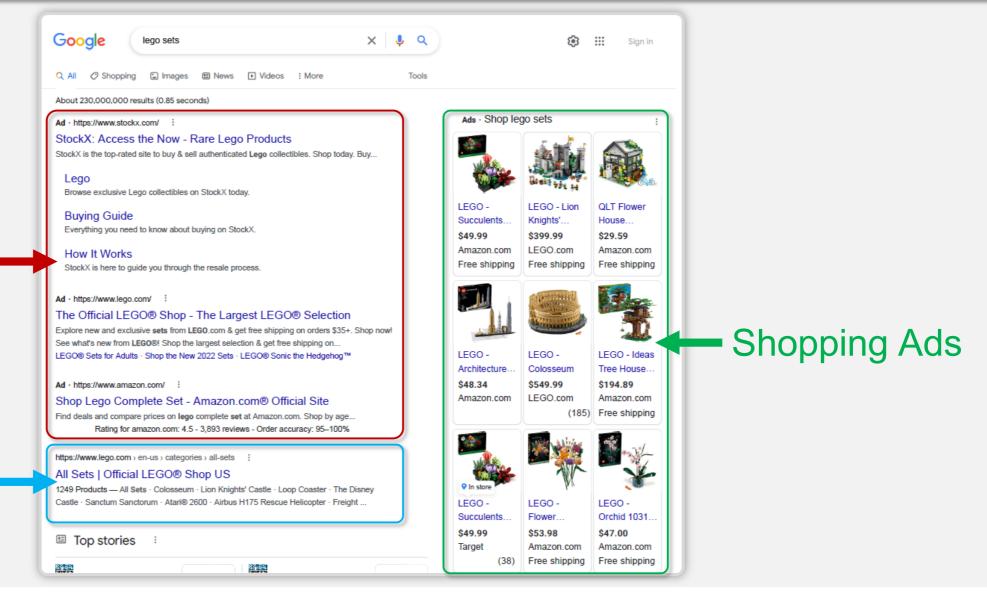


Text Ads

Organic

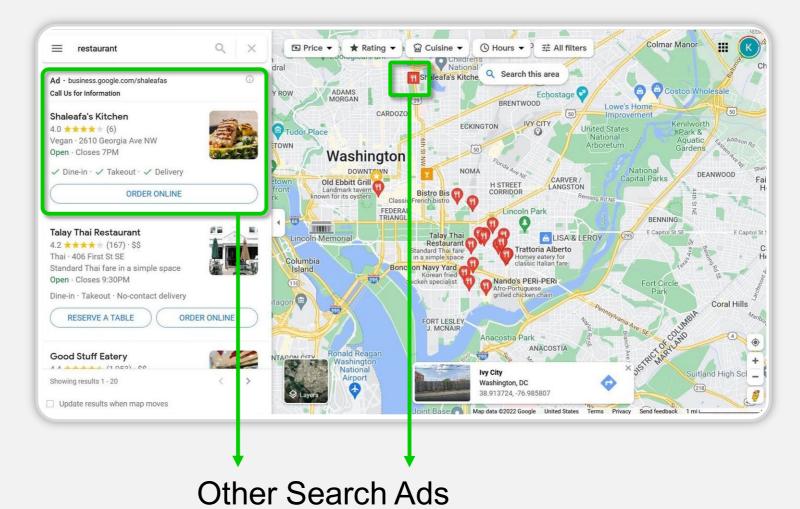
Results

Search Ads

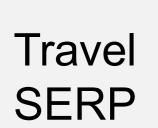


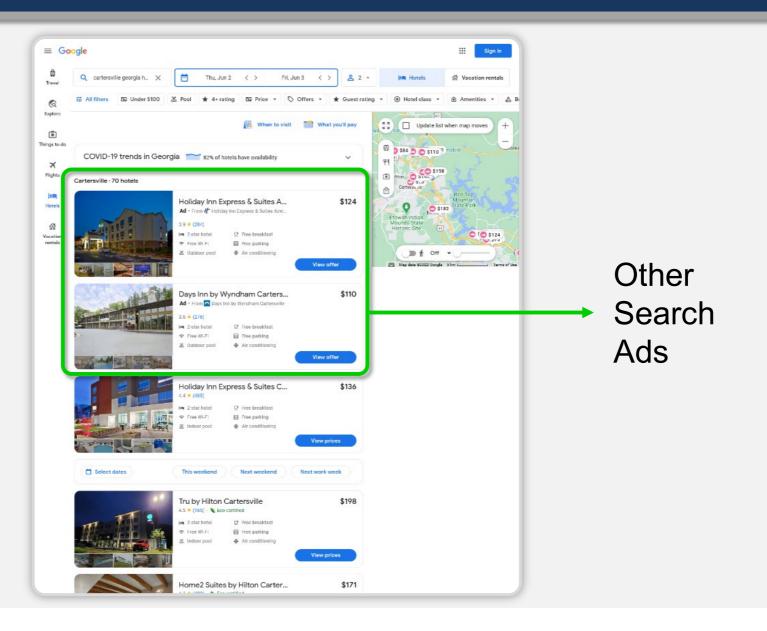


Maps SERP



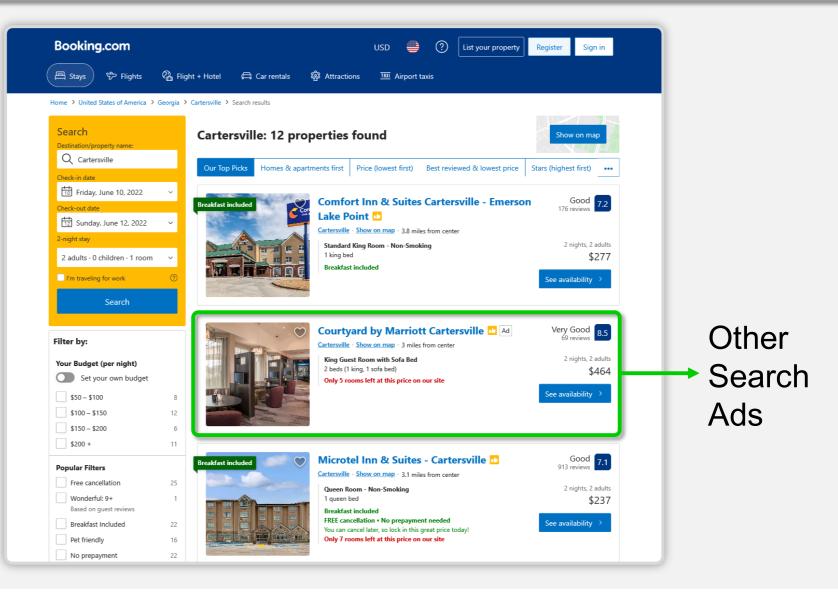




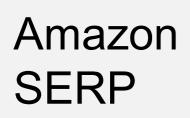


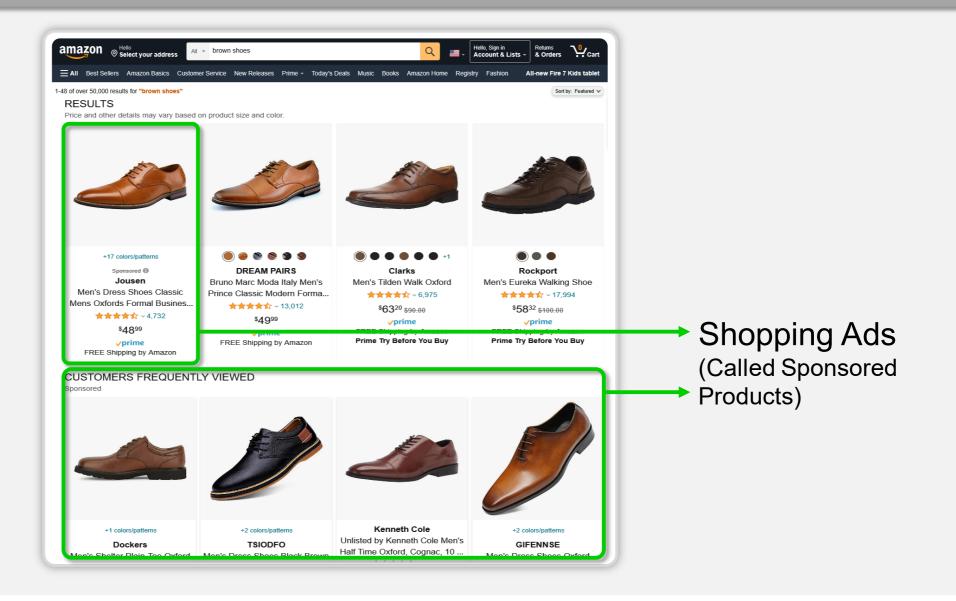


Booking.com SERP



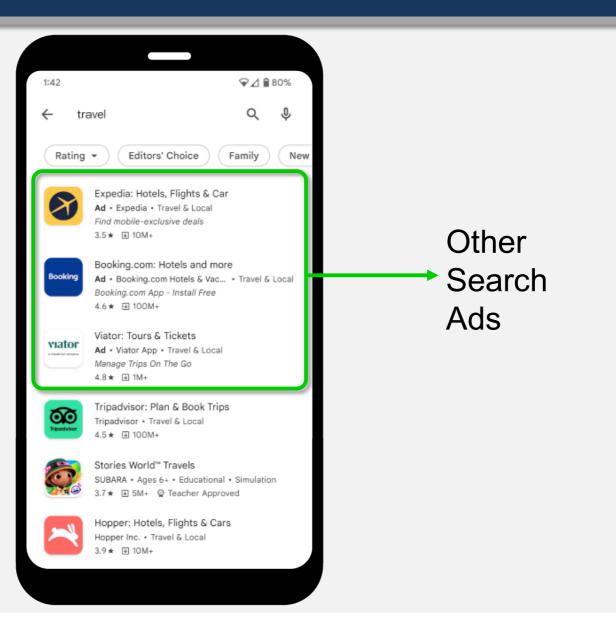








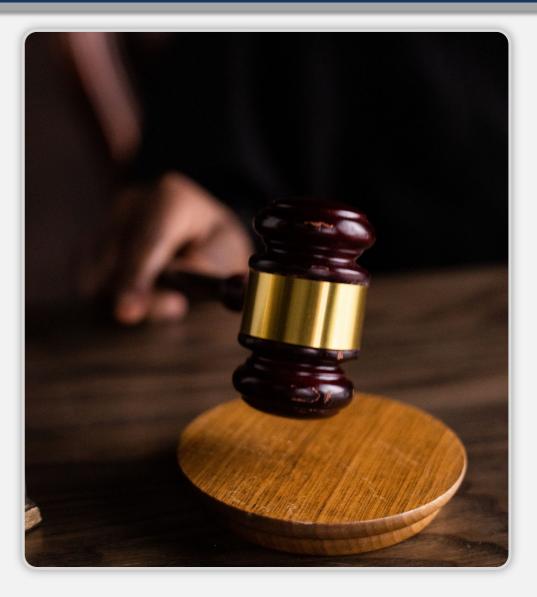
Play Store SERP



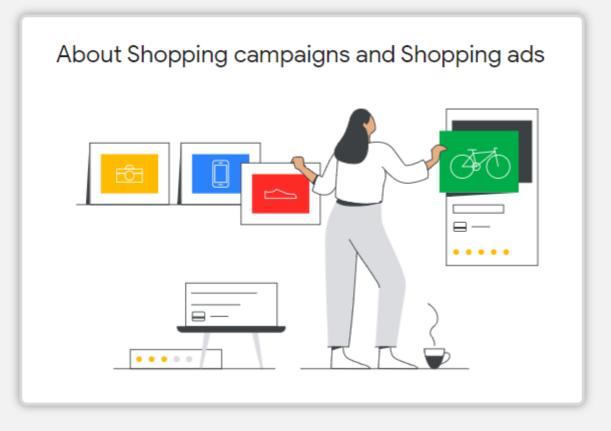
How are other types of Search Ads sold?



- Real-Time Auctions
- Real-Time Bidding







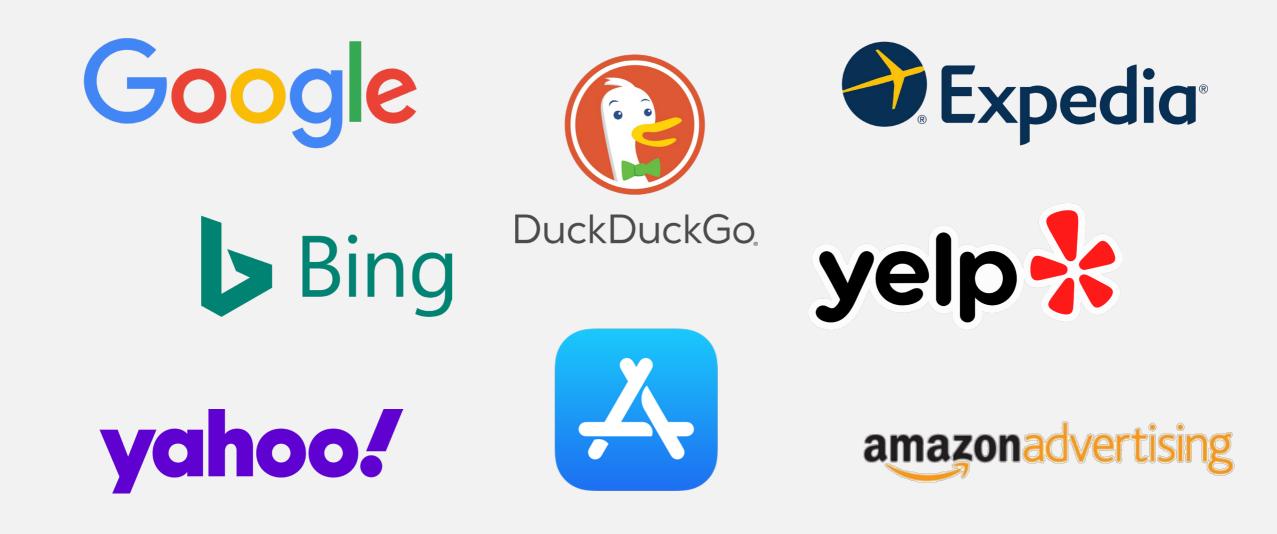
"To get started, you'll send us your product data with Merchant Center and create a campaign in Google Ads. Then, we'll use your campaign to create ads on Google and around the web where potential customers can see what you're selling."

- Google Ads Help

Who shows other types of Search Ads in the US?







What is Google's market share of Search Ads in the US?







Search Advertising

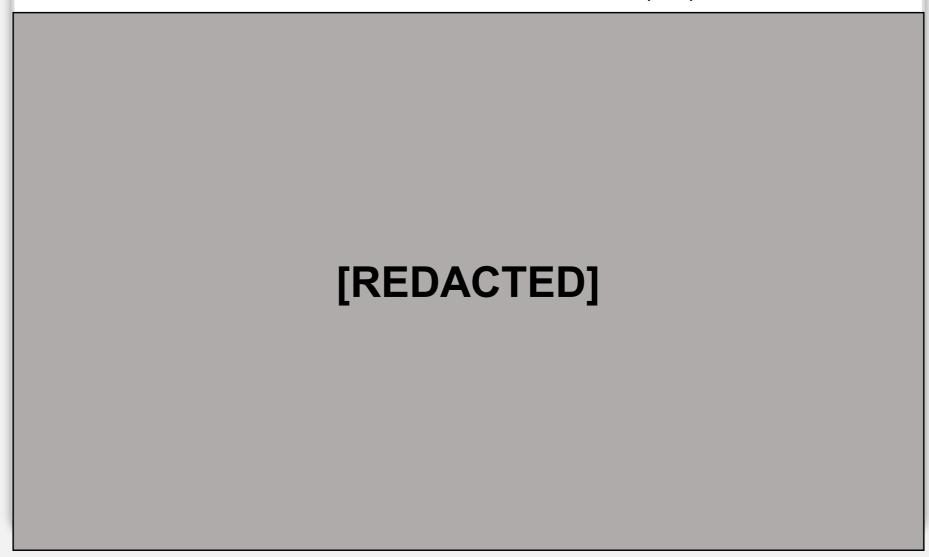


Other Types of Search Ads



Search Ads Market Share

Shares of Search Ads Revenue (US)

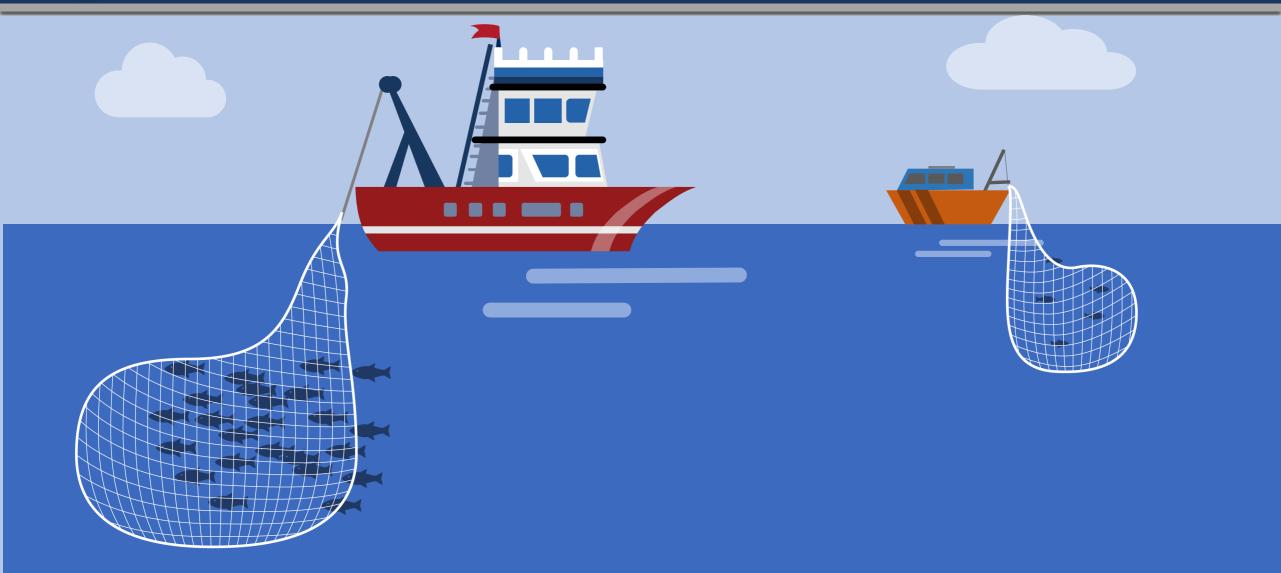


Sources: Google QueryNav data (DOJ RFP 2.70), Microsoft aggregate search statistics data (DOJ RFP 1.39 and CID data), eMarketer, Google Industry Metrics data (DOJ RFP 8.7), Google Search vertical data (DOJ RFP 2.73), and Google Play data (DOJ RFP 8.8).

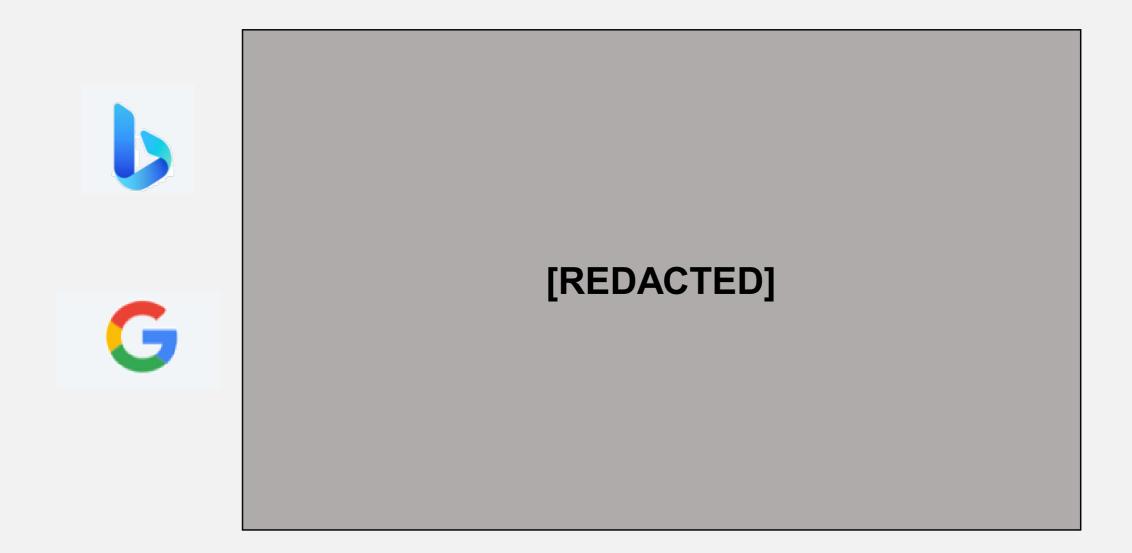
Why is data important to the Search Ads business?







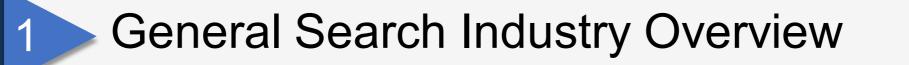


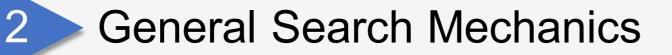


Source: Google QueryNav data (DOJ RFP 2.70), Google Syndication data (DOJ RFP 5.15), Microsoft aggregate search statistics data (DOJ RFP 1.39), StatCounter Global Stats. (2020 Data).183











Search Distribution





Search Advertising Industry Overview

Appendix



Search Timeline

