BEFORE THE UNITED STATES DISTRICT COURT FOR THE DISTRICT OF COLUMBIA

UNITED STATES OF AMERICA, et al., .
. Case Number 20-cv-3010
Plaintiffs,
vs.
GOOGLE LLC, . September 18, 2023
Defendant.

PUBLIC TRANSCRIPT OF BENCH TRIAL, DAY 5 (AFTERNOON SESSION)
BEFORE THE HONORABLE AMIT P. MEHTA UNITED STATES DISTRICT JUDGE

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P R O C E E D I N G S
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(Call to order of the court.)
THE COURT: All right. I hope everybody had a nice lunch break.

Mr. Dahlquist, we are ready to go when you are. MR. DAHLQUIST: Thank you, Your Honor.

JERRY DISCHLER, WITNESS FOR THE PLAINTIFFS, RESUMED STAND DIRECT EXAMINATION (Continued) BY MR. DAHLQUIST:
Q. Mr. Dischler, welcome back from lunch.

Mr. Dischler, during the lunch break, did you speak with anyone about your testimony today?
A. No.
Q. Thank you. Mr. Dischler, I would like to talk to you about the various types of advertisements that can be purchased on Google.

Companies, advertising agencies, and even individuals can purchase advertisements from Google; correct?
A. Yes.
Q. Even I could purchase an advertisement on Google; correct?
A. You could.
Q. Anyone who wants to buy an ad on Google starts with one of Google's advertising front doors; isn't that correct?
A. Not necessarily.
Q. Let me be more specific. Anyone who wants to buy an ad can
start with one of Google's front doors such as Google Ads, ads.google.com, Search Ads 360, or other tools; correct?
A. Correct.
Q. An advertiser can also work with an advertising agency partner to begin the process of purchasing an ad on Google; correct?
A. Yes.
Q. The benefit of advertising on Google Search is the prospect of receiving additional traffic to your business or website; correct?
A. Not necessarily.
Q. Would you agree that a benefit of advertising on Google's search engine results page is the prospect of receiving additional traffic to your business?
A. A benefit? Yes.
Q. A search query that's entered into the Google Search bar is an example of user intent; correct?
A. Typically, yes.
Q. And Google's long-term -- let me start again.

Google's long-term success is based upon satisfying that
user intent; correct?
A. Can you be more specific?
Q. Certainly. Sir, you believe that Google's long-term success is based on the long-term user success, as well as the long-term success of an advertiser; correct?
A. Correct.
Q. If the user's not satisfied, they're not going to come back to Google anymore; correct?
A. Correct.
Q. And if an advertiser's not satisfied, they're not going to keep advertising on Google; correct?
A. Correct.
Q. Google does not show an ad in response to all user queries; correct?
A. Correct.
Q. Google only shows an ad in response to queries that are called with commercial intent; would you agree?
A. That's correct.
Q. And Google defines commercial intent as any query that an advertiser is willing to advertise on and that a user is willing to click on; correct?
A. Not necessarily.
Q. Let me restate the question. Would you agree that commercial intent is when an advertiser is willing to place an advertisement in response to a query and when a user is willing to click on that ad?
A. No.
Q. Mr. Dischler, if I could ask you to take a look at your deposition from September 28, 2020, and we can try to put it up on the screen to make it -- well, the nonpublic screen, I guess.

Not possible? Okay. Then we're going to do this on the paper route.

Mr. Dischler, if I could ask you to look at your deposition binder in front of you, and let's turn to the September 28, 2020, deposition, page 183, line 3, through 183, line 9. So September 28, page 183, line 3, and 183, line 9. Let me know when you're there.

Are you on page 183, sir?
A. I am.
Q. Great. Can you please take a look at page 183, line 3 to line 9.

On September 28, were you asked the following question and did you give the following answer:
"Question: At this time are you trying to determine whether there is commercial intent?
"Answer: Commercial intent, we resolve definitionally, which is if an advertiser is willing to advertise on it, we think a user is willing to click on it. Then it has commercial intent."

Did you testify accordingly, sir?
A. I did.
Q. Thank you. You can put that aside.

Sir, do you agree that a commercial search query is one that an advertiser is willing to pay for?
A. A commercial search query is typically one that an
advertiser is willing to pay for, but not exclusively. Q. One of Google's goals is to increase the number of commercial queries; correct?
A. Yes.
Q. Google has previously put in place specific projects that are aimed at increasing commercial queries; correct?
A. That's correct.
Q. And without going into details, was one such project called Project Mercury?
A. Yes.
Q. And a goal of Project Mercury was to increase commercial queries; correct?
A. Correct.
Q. Sir, I would like to now show you an example of some search ads on Google, if we could go back to UPX12, please. That's in your other binder. It was the same document we looked at earlier, but UPX12 at . 003. And it's on the screen in front of you as well or in your binder.

The title of the slide 3 is "The Search Results Page." Let me know when you're there.
A. I am.
Q. Sir, do you agree that in front of you, UPX12, page 003 , is an example of a search engine results page, or a SERP?
A. Yes.
Q. This is from the same -- UPX12 is the December 2020 search
ads overview presentation; correct?
A. It appears to be in the same document, yes.
Q. Sir, do you agree that Google offers two types of search ads, text ads and shopping ads, which are reflected here on UPX12?
A. Two types of search ads are on UPX12. Those are not the only two offered by Google.
Q. Let me restate the question.

Sir, do you agree that on UPX12 in front of you it's showing an example of a SERP, shows two types of search ads that are returned, text ads and shopping ads; correct?
A. Correct.
Q. A search ad is an advertised display -- let me restart the question.

A search ad is an advertisement that's displayed on a search engines result page in response to a user query; correct?
A. Yes.
Q. And because a search ad is in response to a specific user query, it's a more targeted form of advertising; correct? A. No.
Q. Sir, would you agree that because a search ad is in response to a user query, it is a more focused type of advertising?
A. I don't think I can make that determination, no.
Q. Let me ask one more time. Sir, in comparison to broad or
diffuse general types of advertising such as TV, a search ad, because it's in response to a query, is a more focused type of advertising?
A. I can't answer that question. It's not precise.
Q. Let's go down to your deposition, September 28, 2020, in front of you in the other binder again. And we're not able to do this on the screen? It will make it faster. No? Okay.

We're going to go the slow route, Your Honor. I apologize. THE COURT: That's all right. I think we're technologically limited.

## BY MR. DAHLQUIST:

Q. If we could take a look at September 28, page 13, line 7, through page 13, line 16. Please let me know when you're there. A. Yes.
Q. Sir, on September 28, were you deposed -- were you asked the following question, and did you give the following answer:
"Question: Are there any down sides where a search engine results page is not as good a place to advertise as some other form of media?
"Answer: If you want to get very broad, reach a diffuse audience like someone used for $T V$, the search results page is a less optimal channel because it is a more focused. In order to search advertise, it's in response to a query."

Sir, on that date, were you asked that question, and did you give that answer?
A. Yes.

MR. DAHLQUIST: Your Honor, at this point, with this -- with respect to this one -- I don't have to do this with all of them, but with respect to this one, I would like to move the deposition testimony, page 13, line 7, to page 13, line 16, as a party admission.

THE COURT: Okay.
MR. DAHLQUIST: I'm happy to proceed however you want, Your Honor. We can move each individual in. We can submit it as a designation later. But for specific $Q$ and As, we do think it's important that it be moved in.

MR. SOMMER: I'm confused, because the witness just acknowledged the question and answer. So I don't think there's any dispute about his answer.

THE COURT: No, there isn't. I think the question is, does it come into evidence as a deposition document or transcript.

MR. SOMMER: If it's coming in on the basis of an inconsistent statement, on that basis, we would object. But the witness has been asked, and he's given his answer. I think you have your record.

I leave it to Your Honor.
THE COURT: Okay. I'll admit it as a prior consistent statement. Why don't we do this -- well, just let me know when you want to introduce the ones that you want to substantively.

They're all substantive anyway since they're prior statements. MR. DAHLQUIST: Understood. Thank you, Your Honor. I appreciate it.

BY MR. DAHLQUIST:
Q. Sir, you can put that deposition aside.

Sir, do you agree that the search ads that appear on a search engine results page such as the one in front of you on UPX12 are typically sold on a cost-per-click basis? Correct? A. Yes.
Q. Sir, again, if $I$ can ask you to close the deposition. Are you looking at the exhibit or the deposition?
A. I'm looking at the exhibit.
Q. Oh, I'm sorry. I apologize. I thought you were still looking at the deposition. I wanted to make sure we move forward.

UPX12 is where we're at, page 3. Are you there?
A. Yes.
Q. Great. And let me restate the question.

Sir, a search ad is an advertisement that's displayed on a search engine results page in response to a user query; correct? A. Yes.
Q. And because a search ad is in response -- I apologize. Let me go backwards.

Advertisers pay Google on a cost per click, and Google makes money as a result of those clicks; correct?
A. Yes.
Q. Both text ads and shopping ads are formats of a search ad; correct?
A. Yes.
Q. Search ads sold on the search results page are not sold on the basis of impressions; correct?
A. That's correct.
Q. And we're going to go to another document in your binder, UPX1, and if we can put UPX1 up on the screen, Your Honor. It's in evidence, and there's no confidentiality with respect to UPX1.

THE COURT: Sir, can you clarify what you mean by "not sold on the basis of impressions"? I didn't understand what that meant.

THE WITNESS: So display ads and some other ads are charged -- the advertiser pays just when it's showing up on the screen. For search ads, the advertisers only pays if the user clicks on a link within their ad.

So the event of paying -- the transactible event isn't merely viewing the ad, it's interacting with the ad.

THE COURT: Okay. And so does Google -- are there a category of advertisements for which Google receives revenues just for the display of the ad?

THE WITNESS: Yes.
THE COURT: There are? Okay.

THE WITNESS: Yes.
BY MR. DAHLQUIST:
Q. Sir, on UPX1 right in front of you -- this may be some more information to address the Court's question. Around page 11 of the document, the Bates stamp ends in 538, and the label of this is "Impressions."

Let me know when you're there.
A. Yes.
Q. Great. The title of this is "Impressions: An impression
is counted each time your ad is shown."
Do you see that?
A. Yes.
Q. And at the very bottom, one of the comments says,
"Impressions in paid search are free."
Do you agree, sir, that impressions in paid search are free?
A. I do.
Q. In response to a user query, the search ads that appear, no advertiser is charged just for showing their ad; correct?
A. That's correct.
Q. A user has to click on it in order to be charged; correct?
A. Yes.
Q. On the next page of the same document, UPX1, the heading is "Click: When someone clicks your ad, like on the blue headline of a text ad."

Do you see that page?
A. Yes.
Q. At the very bottom, the comment is, "It's worth noting that in search you only get charged when someone actually clicks on your ad, not when an impression is shown."

True?
A. True.
Q. Google sells some ads based on impressions; correct?
A. It does.
Q. However, search ads are not sold based on impressions; correct?
A. Correct.
Q. I would like to turn to a specific -- let's go back to UPX12 again, back to the same page we've been on, and talk about text ads. Actually, we're going to go in a little bit to, I think, page 6 and talk about text ads, and I'm looking at the page specifically.005, "anatomy of an ad."

Let me know when you're there.
A. I am.
Q. Sir, UPX12.005, is this an example of a text ad?
A. It is.
Q. And a text ad contains the ad content and the text including possibly one, the $U R L$, two, one to three headlines, and three, a one to two description line; is that correct? A. That's correct.
Q. And as depicted on UPX12.005; correct?
A. It is.
Q. Now, an advertiser can choose to add extensions onto that text ad such as site links, call extensions, or other types of information; correct?
A. That's correct.
Q. And, sir, do you agree that any type of advertiser can purchase a text ad on Google?
A. No.
Q. Okay. We're going to talk in a minute about shopping ads and shopping ads which are focused on products. So let me restate my question.

Any type of advertiser who is interested in selling a product or a service or any other type of -- anything else they want to sell can purchase a text ad on Google?
A. No, they need to comply with our policies. We don't allow some advertisers to advertise on Google.
Q. Google moderates some content that it deems inappropriate or unacceptable for displaying on the Google web site; correct?
A. That's correct.
Q. Other than those that are deemed in conflict with your policy, any type of advertiser can purchase an ad on Google; correct?
A. That's correct.
Q. Approximately 80 percent of the search ads that are sold by

Google are text ads; correct?
A. I'm not sure of the exact figure today.
Q. Sir, how about at the time of your deposition in 2020? Was the percentage of search ads that were sold by Google approximately 80 percent?
A. Yes.
Q. And do you believe that number has gone up or down since 2020?
A. I imagine it's gone down.
Q. Do search ads -- I'm sorry.

Do text ads still represent the majority of search ads sold by Google?
A. Yes.
Q. Still staying on UPX12, we're going to go back up a couple pages to page 4. I'd like to talk about shopping ads.

Sir, are shopping ads also known as PLAs, or product listing ads?
A. Yes.
Q. They're synonymous? They mean the same thing; correct?
A. Yes.
Q. And a product listing ad or a shopping ad is a search ad that includes a picture, together with a price or other descriptive information about a product; correct?
A. Yes, a picture and other structured data.
Q. Shopping ads are purchased by retailers who want to sell a
product; correct?
A. Yes.
Q. And as depicted on UPX12, in front of you at .003, there's a demonstration of a shopping ad versus a text ad; correct?
A. Yes, three shopping ads versus a text ad.
Q. The largest purchasers of shopping ads on Google are Amazon, Kohl's, Walmart, Macy's, Target, and other retailers; correct?
A. The largest purchasers of shopping ads are retailers, yes.
Q. Is Amazon one of the largest purchasing -- purchasers of shopping ads on Google?
A. Yes.
Q. Does Google advertise for its search services on Amazon?
A. No.
Q. Advertisers who sell services, something other than products, are not eligible to purchase a shopping ad; correct?
A. On Google?
Q. Correct.
A. Yes, that's correct.
Q. Let me restate the question. Advertisers who sell services, something other than products, are not eligible to purchase shopping ads on Google; correct?
A. That's correct.
Q. If an advertiser wants to sell a service, they have to purchase a text ad on Google; correct?
A. That's not correct.
Q. If an advertiser is not eligible -- let me strike the question.

An advertiser who is not selling a product but still wants to advertise on Google would purchase a text ad; correct?
A. Not necessarily, no.
Q. There's other types of ads they could purchase; correct?
A. That's correct.
Q. If an advertiser who doesn't sell a product but sells a service but still wants to purchase a search ad in response to a query, their only option would be a text ad; correct?
A. No.
Q. Okay. We'll move on. Google has lots of advertisers who buy text ads but do not buy shopping ads; correct?
A. That's correct.
Q. And the majority of advertisers on Google cannot buy shopping ads or PLAs because they're not actually selling physical products; correct?
A. That's correct.
Q. An advertiser can have an ad for both a -- let me strike the question.

An advertiser can have an ad for the same product appear in both the shopping ad or the PLA section, as well as in the text ad section of a search engine results page; correct?
A. Yes.
Q. And I think we covered this, but just in case, a shopping ad, similar to a text ad, is sold on a cost-per-click basis; correct?
A. Yes.
Q. Not based on impressions; correct?
A. That's correct.
Q. However, shopping ads are more automated because they draw on a product feed; correct?
A. A shopping ad is typically more automated, and it does draw on a product feed.
Q. For a shopping ad, the advertiser creates the -- let me strike the question.

For a shopping ad, Google creates the content that is then displayed on a SERP in response to a query; correct?
A. I'm not sure what you mean. Can you clarify?
Q. Let's start with text ads, which might be a little easier.

For an advertiser to place a text ad, the advertiser
creates the copy or the advertisement and places it with Google; correct?
A. They create creative fragments, and Google combines the creative fragments based on a machine learning algorithm typically.
Q. We'll use "creative fragments." So in a text ad, the advertiser is the one that creates the creative fragments that are displayed in the text ad in response to a query; correct?
A. Yes.
Q. But in a shopping ad, Google is the one that creates the creative fragments as opposed to the advertiser; correct?
A. No. The advertiser provides product attributes and product imagery, and we essentially do the same combination using machine learning. It's a similar process.
Q. The advertiser uploads their product feed, their inventory, other products that they'd like to advertise as a shopping ad, and Google draws from that inventory in order to display it as a shopping ad; correct?
A. That's correct, similar to what we do with the creative fragments and text ads, yes.
Q. Would you agree that a text ad gives an advertiser more control when their ad appears on a search engine results page?
A. It does.
Q. For a text ad, an advertiser can select a set of keywords to direct the text ad to appear in response to specific user queries?
A. A specific set of user queries, yes.
Q. But for a shopping ad, the advertiser does not select keywords that will respond to a query; correct?
A. That's correct.
Q. And as an example, on UPX12, page 3, the PLAs or the shopping ads are displayed alongside of other products, similar products in sort of a carousel or a -- is that correct?
A. The PLA unit is a carousel format with similar products on it, yes.
Q. And could you define a carousel for the court?
A. It's a scrollable horizontal unit on the page.
Q. And that's different from a text ad, where an advertiser gets a full line to themselves in order to promote their product or service; correct?
A. A horizontal and vertical space of their own, yes.
Q. Sir, do you agree that shopping ads are much cheaper than text ads?
A. Not necessarily.
Q. Sir, do you agree that in general shopping ads are much cheaper than text ads?
A. No.

MR. DAHLQUIST: Your Honor, I have a confidential document that I would like to show the witness. We will not display it on the screens.

THE COURT: Okay.
BY MR. DAHLQUIST:
Q. Sir, I've handed you a document marked PSX-191. It's confidential, so we're not going to read a lot of details of this. But I would like to ask you a question in response to the question and answer we just had.

If you could turn to the second page, and this is a long e-mail chain, as you can see, that's initiated by you in

June of 2017.
A. Okay.
Q. It's all the way in the back on page 724. But I'm really going to focus on page 2. And sort of in the top quartile of the page, there's an e-mail from you dated Friday, October 13, 2017, at 6:02 a.m.

Do you see that e-mail, sir?
A. Yes.
Q. And in that, there's two items, item 1 and item 2.

Item 2, can you please read the sentence in item 2, and then I will re-ask my question.
A. Yes.
Q. Sir. Do you agree that PLAs are much cheaper than text ads?
A. Today, it's not clear.
Q. Okay. Let me ask a different question. Sir, as of the time that you wrote this e-mail, which is in PSX191, dated October 13, 2017, did you agree and do you believe that PLAs are much cheaper than text ads?
A. In -- on October 13, 2017, I thought that PLAs were cheaper than text ads.
Q. Thank you, sir. You can put that document away.

MR. DAHLQUIST: Your Honor, at this time -- I don't think this document is in evidence yet. So $I$ will do a favor for my plaintiff states and ask that we move in PSX191.

THE COURT: Is there any objection?
MR. SOMMER: No objection.
THE COURT: All right. It will be admitted. (PSX191 received into evidence.)

BY MR. DAHLQUIST:
Q. Sir, do you agree that members within the search teams ad believe that shopping ads and text ads are different products with different goals?
A. Can you repeat that question?
Q. Sure. Let me ask you, sir, do you believe that shopping ads and text ads are different products with different goals?
A. Not necessarily. Shopping ads and text ads often have the same goal. They are a different product.
Q. So you agree, sir, that text ads and shopping ads are different products; correct?
A. Yes.
Q. Okay. Do you agree that shopping ads and text ads have different goals?
A. The advertiser often has the same goal. The teams have slightly different goals because they're slightly different product.
Q. From the perspective of Google, do you believe that shopping ads and text ads are different products with different goals?
A. Shopping ads -- from the perspective of Google, shopping
ads and text ads are different products. The teams have different goals. The advertisers often have the same goal, which is to sell products on their websites or apps.
Q. I'm asking from your perspective in your chair at Google as VP and GM of search ads, do you believe that search ads and text ads have different goals?

MR. SOMMER: Objection, Your Honor; asked and answered twice.

THE COURT: I will sustain it. I think he did answer the question.

MR. DAHLQUIST: Thank you, Your Honor. I will move on.

BY MR. DAHLQUIST:
Q. Sir, do you agree that text ads and PLAs or shopping ads don't compete with each other?
A. No.
Q. Sir, would you agree that members of your team at search ads at Google believe that the two formats, shopping ads and text ads, are in their own world and don't compete?
A. Members of my team have outlined with -- in great detail that the two use two separate auctions. But from the perspective of the advertisers, those two products compete with each other for advertiser budgets.
Q. Sir, I'm asking from your perspective as general manager and VP of search ads, do you and your team believe that text ads
and shopping ads are two different formats that are in their own world and do not compete?
A. I'm not sure how that question is different than your last question, but $I$ can answer it again, that shopping ads and text ads use two separate auctions, and the customers that often use both shopping ads and text ads have the same business objective for those products, and therefore, the two products compete for a singular advertiser budget.
Q. All right, sir. Let's look at the document, same document in front of you, PSX191.
A. This document?
Q. Yes, correct, Your Honor -- I'm sorry, correct, Mr. Dischler. I'm on page 4, that ends in Bates stamp 723. A. Yes.
Q. And in the bottom quartile of the document, there's an e-mail from a gentleman with the first name Shiv on Friday, June 23, 2017.
Do you see that?
A. Yes.
Q. And I'm sorry. Who is Shiv?
A. Shiv at the time was the head of engineering for search advertising, including shopping ads.
Q. And he reported directly to you?
A. He did.
Q. And he's a part of the search ads team, correct, at this
time?
A. Actually, in 2017, I believe he was a peer of mine.
Q. He was on the search ads team; correct?
A. He was, yes.
Q. And looking at the second sentence in PSX-191, Bates stamp 723, do you agree that your colleague, Shiv, stated, "Today these two formats are siloed in their own world and don't compete. It will be worth looking at pricing from that point of view"? Correct?
A. Yes. He said exactly what $I$ was saying, which is that the two options don't compete, but the whole reason that we were having this e-mail thread is because the same advertiser had the same objective and was using two separate products to achieve that objective. We were trying to figure out what to do. Q. Sir, my question is very simple. On that date, did your peer, Shiv, state that the two ad formats, shopping ads and text ads, are siloed in their own world and don't compete? Yes or no?

MR. SOMMER: Objection; asked and answered.
THE COURT: Hang on. I'm not sure he answered that precise question, but it's pretty clear what he's written. So we can move to the next question.

MR. DAHLQUIST: Okay. Thank you, Your Honor. BY MR. DAHLQUIST:
Q. Mr. Dischler, we're done with that document.

Mr. Dischler, in addition to the search ads that are still displayed on UPX12, page 3, in front of us, Google also sells other types of advertisements; correct?
A. That's correct.
Q. It sells something called display ads; correct?
A. It does.
Q. And anybody can buy a display ad from Google? I could buy a display ad; correct?
A. Subject to the advertiser restrictions we have, yes.
Q. Hopefully, I wouldn't put any illegal content. Understood.

A display ad is a pictorial or image ad that can run anywhere on the Internet; correct?
A. No.
Q. Would you agree that a display ad is a picture or an image that can run across the Internet on any one of your owned and operated properties? Correct?
A. No.
Q. Okay. If we can please take a look at your deposition, the September 28, 2020, deposition, page 20, line 24, through page 21, line 5. So September 28, 2020, page 20.
A. Okay. What page again? Apologies.
Q. Certainly. No problem. It's page 20 of your September deposition, and it starts on line 24. It's over towards the bottom.

Sir, would you agree on September 28 you were asked the
following question and you gave the following answer:
"Question: What's a display ad?
"Answer: It's not a particularly useful term anymore. Typically, what it refers to is a pictorial image-based ad that runs across the Internet off one of the large owned and operated properties."

Were you asked that question, and did you give that answer? A. Off of one of the large owned and operated properties, yes. Q. And I apologize if $I$ was imprecise in my question.
A. Yeah. Not on, yes.
Q. And what does "off of one" of your properties, what does that distinction mean, sir?
A. That means that the properties are not owned by Google. It's not running on the entire Internet. It's only Internet sites that are supported by the display networks that we operate or other networks that we have access to, which is not the entire Internet. Many websites don't have display advertising on them. So --
Q. A display ad does not appear on a SERP, which is on UPX12, in response to a user query; correct?
A. That's correct.
Q. And the ads that are appearing on UPX12 in front of you, none of these are display ads; correct?
A. That's correct.
Q. Google has never included display ads on a SERP in response
to a user query; correct?
A. That's correct.

THE COURT: Sorry. What was the last question and answer again?

MR. DAHLQUIST: Certainly.
BY MR. DAHLQUIST:
Q. Google has never included display ads on a search engine results page in response to a query?

THE COURT: Thank you.
BY MR. DAHLQUIST:
Q. And I believe the answer is no. Correct, sir?
A. We have never put a display ad in response to a user query. Q. Google generally sells display ads based on impressions; correct?
A. Impressions or clicks.
Q. In general, the primary way that Google sells display ads is based on impressions; correct?
A. I actually don't have the current stats. It's pretty close between impressions and clicks, I think, at this point.
Q. As of the time of your deposition, was the primary method that people purchased display ads --
A. Yes.
Q. -- by impressions; correct?
A. Yes, by impressions.
Q. And Google sells display ads -- by impressions, it's sold
on a cost per mill or cost per thousand basis; correct?
A. Yes.
Q. And this is different than how search ads are sold, which are based primarily on a cost-per-click basis; correct?
A. That's correct.

THE COURT: Sorry. Can you explain what you mean by cost per mill/cost per thousand? Is that a quantity?

THE WITNESS: Let's say that you're on The New York Times, and there are a thousand people who view a page on the New York Times, and that includes an ad. Then you would pay a certain rate for 1,000 impressions of the ad, 1,000 people who may or may not be seeing the ad but it's being rendered on the page.

In contrast, if you're on a cost-per-click basis, that means that you have to actually click on the ad, interact with the ad in order to pay for it.

THE COURT: Understood. Thank you.
BY MR. DAHLQUIST:
Q. Another type of a display ad is also called a banner ad? You're familiar with banner ads?
A. Yes.
Q. And a banner ad is another type of picture or display ad; correct?
A. It's -- a banner ad is just a pictorial format, which is a type of display ad.
Q. And I'm from Chicago. So it's the display ad that shows up every time I click The Chicago Tribune home page; correct?
A. You know, I haven't read The Trib in a while.
Q. No problem. I try to read it every once in a while. Google sells banner ads based on impressions or cost per mill; correct?
A. Often, yes.
Q. Again, banner ads are not sold on the basis of a click; correct?
A. Sometimes, yes, but most often not.
Q. The predominant way or -- I guess the predominant way in which banner ads are shown or sold is on a cost per mill or impressions, not based on clicks; correct?
A. That's right.
Q. Google also sells ads called discovery ads; right?
A. Yes.
Q. And a discovery ad is based on a type of a feed; correct?
A. It's an ad that shows up on feed services.
Q. Would you agree that a discovery ad is a little bit more akin to a social media advertising? Correct?
A. It's somewhat similar, yeah.
Q. Discovery ads are not shown in response to a user query on a SERP; correct?
A. They're not, no.
Q. And Google modeled -- discovery ads are a more -- a newer
type of ad that is sold by Google; correct?
A. They are.
Q. And Google modeled the format of discovery ads after Instagram and Facebook; correct?
A. Partially, yeah.
Q. Sir, I think you hit on this a little bit before, but Google sells search ads through an auction process; correct?
A. Yes.
Q. And I believe you stated that the auction for text ads is different than the auction for shopping ads or PLAs; correct?
A. It is.
Q. They're completely separate auctions; correct?
A. They are.
Q. Now, it's possible, because we talked about that some advertisers purchase both shopping ads and text ads, a single advertiser can enter both auctions; correct?
A. Yes. Typically, they do.
Q. Google designs an auction that determines the prices that are charged to advertisers for their ad; correct?
A. The auction determines the prices that advertisers are charged for their ad up to their maximum willingness to pay. So the advertiser specifies either their maximum bid or the business event that they want to achieve, and that represents their maximum willingness to pay.
Q. Sir, let me re-ask the question. Would you agree that

Google designs an auction, and within the context of that auction, the advertiser's ads are priced based on the results of that auction?
A. Yes.
Q. So the auction determines which ads are shown; correct?
A. Yes. It is the final determination of which ads are shown. There are other systems that do policy enforcement and disabling and other things like that that also determine which ads are shown.
Q. Let me just make sure we're clear. The auction
determines -- the auction and other components that are running behind the scenes at Google determines which ads are shown in response to a query; correct?
A. Correct.
Q. And the auction, as well as other computations at Google, determine the prices that are charged the advertiser; correct? A. They -- the pricing is the result of the auction process.
Q. And Google's search ads auctions are different from what I'm used to, an in-person charity auction or an online eBay auction, because it happens millions of times per second and billions of times per day; correct?
A. Probably not millions of times per second, but definitely, we run a lot of them.
Q. Approximately how many times per second would an ad auction run?
A. I actually -- I can't tell you -- I can't break it down by seconds, but we run billions of auctions per day.
Q. Billions of auctions per day are run for search ads -- for search ad auctions; correct?
A. Yes.
Q. And Google employs data scientists, Ph.D.s, and auction theorists in order to help design and improve these ad auctions; correct?
A. Yes.
Q. I believe a witness that the Court is going to hear from, Mr. Adam Juda, helps to lead the ad auction process at Google for the search engines team; correct?
A. He doesn't lead the ad auction process at Google. He works on the -- on designing the ad auction, along with a number of other folks.
Q. And I believe Mr. Juda has a Ph.D.; correct?
A. He does, yes.
Q. Google built an ad auction that is highly automated and highly complex; correct?
A. It's highly automated. It's reasonably complex.
Q. You need a Ph.D. in order to actually understand it; is that correct?
A. We have lots of talented folks, some with Ph.D.s, some without, who understand the auction.
Q. Google's ad auction or search ad auction is known as a
generalized second-price auction; is that correct?
A. It's a variant of a generalized second-price auction. It's been customized in ways that you likely know.
Q. And I'm going to try to be very basic here. So I will probably get some of this wrong, and I'm sure you will correct me.

But a variant of a generalized second-price auction, as you describe, is one where multiple bidders enter the auction, and the winner pays one cent above the first runner-up; correct? A. That would be -- in a classic second-price auction, that is how they would pay. As you know, we have -- there are a number of other factors that influence what the advertiser actually pays.
Q. And I'm just getting a generalized understanding of what a second-price auction is. A generalized second-price auction is the winning bidder doesn't pay what their ultimate top bid was but a little bit above what the first runner-up's bid was; is that correct?
A. Yes. In a normal second-price auction, it could either be a penny above or the actual second price, because they were willing to pay more than the second price.
Q. And because it's a second-price auction, the bid of the runner-up is very important to determine the ultimate price that is charged to the advertiser; correct?
A. Yes.
Q. And would you agree that Google seeks to have efficient auctions, which means auctions with more than one participant? Correct?
A. Yes.
Q. And Google believes that an efficient or a healthy auction is one with more than one bidder; correct?
A. Yes.
Q. You believe that an auction that only has one person interested is inefficient?
A. Not necessarily. It could be that there really is only one participant who is relevant for the user. Ultimately, user relevance is the most important thing, and if there's one bull's-eye, then, you know, they should pay the reserve price. Q. Google believes that an efficient or healthy auction is one with more than one bidder; correct?
A. For most queries, the answer is yes; for the example $I$ just gave you, the answer is no.
Q. Sir, let me just make sure I get a clean answer to this. You would agree that Google is interested in a healthy auction, which is more than one bidder in an ad auction; correct?

MR. SOMMER: Objection, Your Honor; asked and answered
a couple of times now. I think we've covered this.
THE COURT: Agreed. I understand what his answer is. MR. DAHLQUIST: I will move on. Thank you, Your

Honor.
BY MR. DAHLQUIST:
Q. Google benefits when there's more than one bidder in a search ad auction; correct?
A. Yes.
Q. Google's revenue increases the more people that there are in ad auctions; correct?
A. Not necessarily, no.
Q. Sir, do you agree that Google helps to meet its revenue goals when there's more than one person in an ad auction? Correct?
A. Sometimes; sometimes not.
Q. Sir, if you could take a look at your September 28th deposition again in front of you, page 97, september 28, 2020, page 97, line 16 through line 22.

MR. SOMMER: Your Honor, there's nothing inconsistent about the transcript and what the witness just testified to.

MR. DAHLQUIST: I haven't asked the question, Your Honor.

THE COURT: Why don't we go just ahead and ask the question that was asked during the deposition. MR. DAHLQUIST: Will do, Your Honor. BY MR. DAHLQUIST:
Q. Sir, on September 28, 2020, in your deposition, page 97, line 16 through line 22, were you asked the following question,
and did you give the following answer?
"Question: Right. But you really didn't answer my question. My question is this: It helps Google to meet its revenue goals to have more people in their auctions; is that correct?
"Answer: Generally, having a healthy auction is beneficial to Google."

Sir, did you give that answer to that question?
A. I did.
Q. Thank you. You can put the deposition away.

Sir, Google does not tell advertisers if they're the only bidder in an auction; correct?
A. Advertisers can generally figure it out, but we don't have a special determination to tell them that they're the only bidder in an auction.
Q. Let me ask my question again, and let me know if you don't understand it.

Sir, Google does not tell advertisers if they're the only bidder in an auction; correct?
A. Deterministically, no.
Q. And since text ad auctions and shopping auctions are separate, any changes to the pricing in one auction does not impact the pricing of another auction; correct?
A. That's correct.
Q. Sir, would you agree that Google defines the rules of the
search ad auction process? Correct?
A. Yes.
Q. And Google defines the terms under which the search ad auction sets various components, including reserve prices; correct?
A. Yes.
Q. And Google can raise prices in search ads by setting the reserve prices; correct?
A. Within the constraints of -- not strictly correct, because it's got to be within the constraints of the advertiser's objective function. The advertiser determines their maximum willingness to pay or their return on investment target, and if the reserve price is above that, then the advertiser won't participate in the auction. So we don't set the price. Q. Sir, let me ask my question again. Do you agree that Google can raise prices with the ability to define the terms of the auction, including setting reserves and the auction dynamics? Correct?
A. I believe I answered your question. I'm not sure how I could answer it differently, and -- I'm not sure I could answer it differently.
Q. Okay.
A. We -- yes.

THE COURT: And to be clear, I think we've touched on this previously, but the reserve pricing is essentially the
floor?
THE WITNESS: Yeah, it's the floor, and we tend to set them pretty low.

THE COURT: Okay.
BY MR. DAHLQUIST:
Q. Google can control the auction dynamics that can result in a higher cost per click, or CPC, for search ads; correct?
A. A higher or lower CPC to be paid by a particular advertiser for a particular search ad.
Q. But Google controls that, whether it's higher or lower; correct?
A. Google controls -- Google controls the function that determines the price of whether it's higher or lower, but ultimately, it's whether the advertiser's relevant to the query and their maximum willingness to pay and whether the user is getting a good experience and all of those factors, as well as the bids of the other advertisers that results in the eventual price.
Q. Sir, you're familiar with the term "ad launches"; correct? A. Yes.
Q. And a launch to the Google ad auction is a modification or a change to the auction process in some way, shape, or form; correct?
A. Yes. An auction-related ad launch would be a change to the auction.
Q. And you have the authority to approve launches that impact pricing and other components of the search ad's auction process; correct?
A. I'm one of the approvers, yes.
Q. And you personally have approved launches that have impacted the pricing of the search ads -- of search advertising auction; correct?
A. That have affected the prices, either positive or negative, yes.
Q. Google does approximately a thousand launches per year to change its ad auction process; correct?
A. Not just for the auction, no. But, I mean, we do roughly a thousand experiments per year in search ads quality. I would say 20 percent of them are related to the auction in some way, and then only a fraction of those are actually launches.
Q. Google implements a large number of launches in order to modify or change the search ad auction process on a given year; correct?
A. Yes.
Q. In addition to launches, Google has pricing levers or pricing knobs that it can use to tune or change aspects of a search ad's auction; correct?
A. In addition to the launches? No.
Q. And let me make sure I understand definitionally. Do you agree that a pricing knob or a tuning is the same as a launch or
different from a launch?
A. The way that a tuning would be implemented is through a launch. So you're talking about the same thing.
Q. And how about a pricing knob? Is that as a part of a launch as well?
A. Pricing knob is an informal way of talking about a parameter tuning within the ad auction function.
Q. So in talking about a launch, a launch is the umbrella category, and below it can be a tuning or a pricing knob as components of a launch; correct?
A. To be precise, a launch can include a tuning. Pricing knob is another way of saying tuning.
Q. Understood. So pricing knob and tuning are synonymous in your mind?
A. There's -- a pricing-oriented tuning could be informally referred to as a pricing knob.
Q. Thank you, sir. And Google has pricing knobs or tunings that it can use to impact search ad pricing; correct?
A. Yes.
Q. Sir, Google has used launches and pricing knobs to raise the prices in search ads by 5 percent previously; correct?
A. We have had the -- launches, no; experiment, yes.
Q. Sir, would you agree that for some launches Google has set launches that have increased prices at 5 percent for the typical advertiser on Google? Correct?
A. For the typical advertiser on Google? I don't believe I know of a launch that increased prices by 5 percent for a typical advertiser on Google. I know of an experiment that affected prices by 5 percent for the typical advertiser on Google but not a launch.
Q. Sir, if we could turn to your deposition on September 28, 2020, page 59, and I'm focused on page 59, line 18, through page 60, line 2. Let me know when you're there.

Are you there, sir?
A. Yes.
Q. Sir, on September 28, were you asked the following questions, and did you give the following answer:
"Answer: And in some cases.
"Question: And in some of the launches you recall have increased prices 5 percent; is that correct?
"Answer: Yes; for the typical advertiser, yes. With every advertiser, every advertiser behaves differently. So I'm not going to say across the board."

Sir, did you give that answer on September 28? A. I did.

MR. DAHLQUIST: Your Honor, this is one of those pieces of testimony that we respectfully request it be admitted as a party admission.

THE COURT: Okay.
MR. DAHLQUIST: Thank you, Your Honor.

BY MR. DAHLQUIST:
Q. Sir, would you agree that Google has raised search ad prices by 10 percent for some queries? Correct?
A. By 10 percent for some queries? It's possible, yes.
Q. And when Google launched price increases of 5 percent on search ads, it resulted in an increase in revenue to Google; correct?
A. Typically, it would result in an increase in revenue.
Q. And when Google adopted a 5 percent price increase, it resulted in fewer search ads being sold on Google; correct?
A. Fewer search ads being sold? I'm actually not -- I'm not sure which launch you're referring to. It may have resulted in more search ads being sold; it may have resulted in fewer search ads being sold.
Q. I'm not referencing any specific launch right now. So let me just re-ask the question.

When Google adopted a 5 percent price increase, it resulted in fewer search ads being sold; correct?
A. Since I'm -- I'm having a hard time answering the question, because I'm -- the framing of the question, when Google adopted a 5 percent price increase, is vague. And then based on the parameters of whatever launch you're referring to, you're not referring to a launch, it would result in potentially fewer search ads being sold or more search ads being sold, depending upon the mechanism that pricing increased.

For example, if there were more participants in an auction because we improved our targeting, it could increase prices because there are more participants in the auction, and also, since there are more participants in the auction, it would result in more ads being sold because there are more clicks. Q. Sir, if we could turn to your deposition, September 28, 2020, page 61 of your deposition, and I'm looking at line 3 through line 8.

Are you there, sir?
A. Yes.
Q. Sir, on September 28, 2020, were you asked the following question, and did you give the following answer:
"Question: Do you know if when you adopted the most recent 5 percent increase across general advertisers for search ads, whether it resulted in fewer ads being sold?
"Answer: It likely resulted in fewer ads being sold, yes." Did you give that answer, sir?
A. I didn't say for certain. I said "it likely."
Q. Sir, my question simply is, did you give that answer to that question?
A. I gave that answer to that question.

MR. DAHLQUIST: Your Honor, this is one of the other pieces we request be moved in as a party admission. THE COURT: Okay. It will be admitted. MR. DAHLQUIST: Thank you, Your Honor.

BY MR. DAHLQUIST:
Q. Sir, would you agree that if Google implemented a

15 percent price increase on search ads it would keep enough advertisers to increase revenue to Google? Correct?
A. I can't speculate on a hypothetical question like that. I'm not sure.
Q. Sir, do you have any reason to believe that it's not true that if Google implemented a 15 percent price increase, it would not result in an increase in revenue to Google?
A. If we implemented a 15 percent price increase, it's very possible that lots of advertisers would stop advertising on Google and would instead reallocate their budgets to Facebook or Tik-Tok or some other channel where they could get a better return on investment.

So I think a 15 percent price increase would be a very dangerous thing for Google to do.

MR. DAHLQUIST: Your Honor, I move to strike the answer as nonresponsive.

MR. SOMMER: Objection.
THE COURT: I'm not going to strike the answer.
Re-ask him the question, and we'll move forward.
BY MR. DAHLQUIST:
Q. Sir, let me ask the question one more time. Would you agree, do you have any reason to believe that if Google implemented a 15 percent price increase that the revenue at

Google would not go up?
A. Yes.
Q. Sir, if we can look at your deposition again, September 28, 2020, page 67, line 3, through 67, line 10.

Are you there, sir?
A. I'm here.
Q. Page 67, sir. On September 28, did we ask the following question, and did you give the following answer:
"Question: Would you keep enough advertisers so that your revenue would go up if you implemented a 15 percent increase?
"Answer: I imagine that's what the author would say, yes.
"Question: Do you have any reason to think that that's not true?
"Answer: No."
Did you give that answer to that question, sir, on September 28?
A. I'm reading through the previous page to make sure that I understand this in context.
Q. Sir, I'm only asking about this question. You are free to look at the rest, but I'm asking for a yes or no answer to this question.

Were you asked that question, and did you give that answer?
A. Am I allowed to read the previous page for 30 seconds?
Q. Sir, don't look at your counsel for instruction on that. I would like you to look at me. I'm asking you a question and an
answer.
A. Yes, I was looking at you.

MR. SOMMER: Judge, there is no basis for counsel's comment right now about where the witness was looking. He was looking at Mr. Dahlquist. So I don't think we need that kind of colloquy.

MR. DAHLQUIST: Your Honor, I will re-ask the question.

THE COURT: Just re-ask the question.
BY MR. DAHLQUIST:
Q. Sir --

THE COURT: Hold on for a second.
BY MR. DAHLQUIST:
Q. Were you asked the following question and did you give the following answer on page 67, line 3, through 67, line 10 -- do you see that, sir?
A. I do.
Q. So I'm going to re-ask it.
"Question: Would you keep enough advertisers so that your revenue would go up if you implemented a 15 percent increase?
"Answer: I imagine that's what the author would say, yes.
"Question: Do you have any reason to think that that's not true?
"Answer: No."
Yes or no, did you give that answer?
A. That is the answer I gave on September 28, 2020, yes.
Q. Thank you, sir.

MR. DAHLQUIST: Your Honor, this is another piece that we ask to be submitted as a party admission.

THE COURT: It will be admitted.
MR. DAHLQUIST: Thank you, sir.
BY MR. DAHLQUIST:
Q. Mr. Dischler, would you agree that Google believes it can implement a 15 percent price increase as long as it's done gradually?
A. No.
Q. We'll return back to that question when we get to the confidential session.

Sir, do you agree that Google uses launches to help meet revenue targets? Correct?
A. Yes.
Q. I would like to show you a document, UPX522.

And, Your Honor, this is a redacted e-mail. Actually, we should take it down, please. That's not the redacted version. Do we have the redacted version? If not, we can do it on papers.

MR. SCHMIDTLEIN: We're having a lot of problems with redacted versions getting shown on the screen.

MR. DAHLQUIST: We're not here, sir.
THE COURT: Let's dial it down a little bit, so to
speak. We've all got our knobs to dial down. I think it went up and went down fairly quick.

BY MR. DAHLQUIST:
Q. Sir, in front of you in the binder is UPX522. Do you see that document?
A. I do.

MR. DAHLQUIST: Your Honor, UPX522 is in evidence, and it has limited redactions related to just the certain numbers. BY MR. DAHLQUIST:
Q. Mr. Dischler, as we look at the document, let's be careful not to read the numbers, but the rest of it is not confidential. Sir, is 522 an e-mail that you sent to a variety of members of your team, including your boss, Dr. Raghavan, on May 3, 2019? A. Yes.
Q. Sir, do you see, I think, the -- you sent the e-mail, and in the largest paragraph at the top, I'm going to focus on the second sentence. Sir, did you write, "We are short $X$ percent queries and are ahead on ad launches, so are short $X$ percent revenue versus plan?" Did you write that in October of -- I'm sorry, May of 2019?
A. I did.
Q. The next sentence states, "If we don't hit plan, our sales team doesn't get its quota for the second quarter in a row, and we miss the street's expectation again, which is not what Ruth signalled to the street. So we get punished pretty badly in the
market."
Is that correct, sir?
A. That is what I wrote.
Q. And I believe "Ruth" refers to Ruth Porat, your chief financial officer; correct?
A. Yes.
Q. The next line, you state, "We are shaking the cushions on launches and have some candidates in May that will help, but if these break in mid- to late May, we will only get half a quarter of impact or less, which means we need $X$ percent excess to where we are today and can't do it alone."

Did you write that, sir?
A. I did.
Q. And sir, the search ads team was shaking the cushion on launches to find more revenue; correct?
A. What the search ads team was doing was to try to be creative to see if there were any quality changes that we could make that would improve the user experience and also improve Google revenue with reasonable advertiser trade-offs.
Q. Part of your goal of shaking the cushions was to find more revenue for Google; correct?
A. My goal was to get creative so that we could try to make our quarter, yes.
Q. Continuing down in the e-mail, the next full paragraph states, "The question we are all faced with is how badly do we
want to hit our numbers this quarter? We need to make this choice ASAP."

Do you see that sentence?
A. Yes.
Q. And the next sentence, you state, "I care more about revenue than the average person, but think we can all agree that for all of our teams trying to live in the high-cost areas, another $\$ 100,000$ in stock price loss will not be great for morale, not to mention the huge impact on our sales team."

Did you write that, sir?
A. Sir, you just --

MR. SOMMER: Hold on one second, Counsel.
Your Honor, may I?
MR. DAHLQUIST: I don't think that number --
(Counsel conferred.)
MR. DAHLQUIST: Your Honor, I apologize. I was just informed that a number I read was redacted. So I apologize for that fact. Let me re-ask the question without that.

BY MR. DAHLQUIST:
Q. Mr. Dischler, did you write -- actually, I can ask the question without redoing it.

Let me ask, Mr. Dischler, did you write in May of 2019 that you care more about revenue than the average person? Correct? A. Yes. As the leader of the ads team, I should care more about revenue than the average person.
Q. And we can move on from that document, then, sir.

Your Honor, I'm about to start another section. We can push on or --

THE COURT: We can go until 3:00 and then take our break.

BY MR. DAHLQUIST:
Q. I would like to turn to talking about the ad auction dynamics that are used at Google specifically with respect to the search ads auction.

We hit it a little bit earlier about reserve pricing; correct?
A. Yes.
Q. And I would like to talk more. Reserve pricing is the minimum amount that an advertiser pays in order to win a search ads auction; correct?
A. It's the minimum amount that an advertiser can pay in order to participate in the auction. It's the lowest price that they would pay for a given auction.
Q. And Google does not tell advertisers if the price they're paying is based on the bid or reserve price; is that correct?
A. That's correct.
Q. And Google has made tuning adjustments or pricing changes to the reserve pricing before; correct?
A. We have, typically to get bad advertisers out of the auction.
Q. And we talked before about the thousand or so
launches --let me strike that, the many launches that are made to change or update the search ad auction process throughout any given year.

The search ad team generally gives code names or specific names to those launches; correct?
A. In some cases, yes.
Q. Are you familiar with the text ad format pricing launch?
A. Yes.
Q. And there would be many --
A. There were several.
Q. I agree. There have been many launches that change the format pricing of a text ad; correct?
A. Correct.
Q. And are the format pricing launches specific to text ads? Correct?
A. They are, yes.
Q. And format pricing was an effort by Google to equalize the value between the text ad position and the space it takes up on the search engine results page; correct?
A. Yeah. It's just like not charging the same for a quarter page and a half-page newspaper ad. We charge people for space in addition to position.
Q. And Google has adjusted the pricing based on the size of the text ad format; correct?
A. Yes, in order to equalize the effect so that people pay fairly for either an ad that shows at the top of the page or an ad that's of a certain size that gets the same amount of attention via clicks.
Q. And in connection with text ad format pricing, Google has made tuning adjustments to increase the cost per click; correct?
A. In some cases, increase the cost per click; in some cases, decrease the cost per click. But the net has been to increase because we weren't charging for formats before.
Q. Are you familiar with a text ad auction launch named momiji?
A. Yes, but we'll have to look at the document, because there are many of them.
Q. And is momiji related to search -- I'm sorry. Is momiji related to text ad format pricing?
A. I believe so, but we should probably look at the launch document.
Q. And I think the momiji launch occurred around 2017; correct?
A. I don't remember.
Q. And sir, would you agree that a momiji is a small painted doll with space in the base of the doll to hide secret messages? Are you aware of that term?
A. No. We had a very creative Japanophile product manager. I didn't understand the provenance of Momiji.
Q. I had to look that up, and I got the same result on Google and Bing, by the way.

Momiji text ad launch was eventually approved and launched into the search ad auction process; correct?
A. A variant of it, perhaps. I'm not 100 percent sure.

Again, I would have to look at the launch document.
Q. Let me ask the general question.

Sir, do you agree that the momiji text ad launch resulted in an increase in CPCs for advertisers?
A. I would -- you're asking me questions about a specific launch in 2017 when we run thousands of experiments a year without looking at the documentation associated with the launch. So I'm afraid I'm not sure.
Q. We will come back to it in the confidential session, and we will look at a document to give you a little bit more help.
A. Great.
Q. Are you familiar with the concept of squashing in reference to the text ad auction?
A. I am.
Q. And squashing is an auction technique that compresses the delta or the difference between the participants in a text ad auction; correct?
A. It is, to try to prevent runaway winners and to create a chance for smaller advertisers to participate in the auction. Q. In squashing, the difference between the highest bidder and
the next bidder is squashed or compressed; correct?
A. That's correct.
Q. And Google has implemented squashing in its text ad auction dynamics; correct?
A. It has.
Q. And one of the effects of squashing text ads is that the top winner of the auction pays more; correct?
A. In some cases, yes.
Q. On average, the winner pays more; correct?
A. On average, yes.
Q. And because -- sir, are you familiar with another text ad launch called either randomization or the highly technical term RGSP? Are you familiar with that launch?
A. Yes.
Q. And RGSP stands for randomized general second-price launch; correct?
A. Randomized generalized second-price auction.
Q. All right. We're going to try to stay high level for this. But -- well, let me say this: RGSP is another text ad launch that Google made in relation to the search ad auction for text ads; correct?
A. That's correct.
Q. And while highly complex, the effect of the RGSP is that at times the top bidder and the second-place bidder switch places; correct?
A. That's right.
Q. And under RGSP, the runner-up can become the winner; correct?
A. That's correct.
Q. And under RGSP, the winning bidder may not actually be the highest bidder, because they flip places; correct?
A. That's correct.
Q. And in fact, under RGSP, the winning bidder may not have the highest value or the highest-quality ad; correct?
A. Based on our -- based on our metrics, that's correct. And the reason we do it is so that we don't have biases and winner-takes-all dynamics.

The problem that we were having is that you have these very big, successful businesses like Amazon or Booking, and people think that they're such high quality that nobody else ever shows up in the first place.

And for a healthy auction, what we do is some percentage of the time we flip them to see if actually somebody may be better in a category in order to improve the user experience for the user. Otherwise, Amazon always shows up on top, and you will never be able to figure out if anybody is better than Amazon. Q. Sir, let me ask the question as simply as I can. Under RGSP, the winning bidder may not have the highest value or ad rank; correct?
A. The highest ad rank is correct. It may have the highest
value. We just may not be able to score it based on the metrics, which is why we do RGSP, is to try to do some amount of exploration.
Q. Under RGSP, if an advertiser wants to make sure they win the auction, they need to bid higher in order to avoid the randomization process; correct?
A. No, I don't believe that's the case.
Q. Sir, would you agree that in some cases, under RGSP, the highest bidder needs to bid higher in order to get the top spot to avoid the randomization; correct?
A. So I'm not 100 percent sure on this, but I'm pretty sure that you can't avoid the randomization and that that's a part of the mechanism.
Q. Sir, would Mr. Juda probably know more about the components of RGSP than yourself?
A. Dr. Juda would be able to tell you all the details on RGSP.
Q. Okay. And I apologize. Dr. Juda.

Let me ask one more RGSP question. Under RGSP, if an advertiser is the only participant in an auction, they may be randomly dropped from the auction entirely; do you agree?
A. I'm not sure that effect if you're a single ton bidder.

Dr. Juda should be able to tell you if that's the case.
Q. Under RGSP, Google increased its revenue; correct?
A. I believe the answer is yes.
Q. You've mentioned it a few times, but Google does not have a
single metric -- let me take a step back.
We talked about ad value or ad rank. Google does not have a single metric that's used to determine advertiser value; correct?
A. A single metric to determine advertiser value? No.

Advertisers have very different metrics that they use in order to assess their value. It could be sales. It could be gross merchandise value. It could be the lifetime value of a customer. So we couldn't have a single metric to measure advertiser value. They all have their own business objectives. We try to help them achieve those objectives.
Q. And you try to equalize or approximate what the advertiser value might be, but you really don't know what the value is to the advertiser; correct?
A. Well, the advertisers tell us in some cases. We have automated bidding products that represent the majority of our search ads revenue, and there, they're actually giving us an advertiser value function. And so if our price is too high and we can't achieve that advertiser value, which is a business objective, then they just don't participate in the auction. We're trying to align our incentives with their incentives. Q. Sir, Google does not tell advertisers when it raises prices on search ad prices; correct?
A. Typically, we don't. There have been a few cases where we have. We also don't tell them when we lower prices.
Q. Google can make pricing changes to the ad auction that are not noticed by advertisers; correct?
A. It's possible that advertisers won't notice them. It's possible that they will.
Q. Google did not tell advertisers when it implemented the RGSP randomization switch; correct?
A. I'm actually not sure on that one. We may have had a -- we may have had a comms doc associated with it -- sorry, a communications plan associated with it. I'm not sure.
Q. Based on your understanding, you do not believe that Google informed advertisers when it implemented RGSP; correct?
A. I said I wasn't sure.
Q. Google did not tell advertisers when it implemented squashing in the text ad bid process; correct?
A. I'm not sure on that one either. We sometimes do; we sometimes don't. We tend not to tell advertisers about pricing changes.
Q. Sir, if we could take a look at UPX461, which is another document in your binder.

MR. DAHLQUIST: And Your Honor, I don't believe -there may be redactions on this. Do we have the redacted version? We do? Okay.

BY MR. DAHLQUIST:
Q. I'm only focused on the first page of this one, sir.
A. Okay.
Q. And you have an e-mail at the bottom half of UPX461?
A. Yes.
Q. It's an e-mail from you to a gentleman named sundeep Jain, from April of 2016.

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    Do you see that?
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A. Yes.
Q. And sir, your e-mail, the third full sentence states, "We never really had market pressure to clean up advertising. Just look at the state of ads and the particular search ads when AdWords was announced."

Do you see that, sir?
A. I do.
Q. And do you agree that you never really had market pressure to clean up advertising? Correct?
A. At the time of -- the point that $I$ was making, at the time when AdWords was released, the typical way of advertising was through banner ads or pop-up ads that were obtrusive to the user.

AdWords came in and created high-quality relevant advertising that was relevant to the query and didn't just accept the highest bidder but also had a user quality factor.

What I was saying was that there was no market pressure for us to include the user quality factor in our advertising. It was more of a moral imperative that we thought it was the right thing for the user, even though we would make less money in the
short term because we believed that we would make more money in the long term.
Q. Sir, when you wrote in April of 2016, you believed that you never really had ad pressure to clean up advertising in 2016; correct?
A. What $I$ was saying was exactly what $I$ explained, that we didn't have market pressure at the time when the product was created in 2004 in order to clean up advertising, but we did it anyway because we were focused on quality.

MR. DAHLQUIST: Your Honor, I think that concludes what $I$ can do in a open session.

And so I think at this time we're ready to move to a confidential session, but $I$ want to give my colleagues at the states opportunity to question in the open session.

MR. CAVANAUGH: Your Honor, I probably have about a half an hour of questions.

THE COURT: Okay. Let's go ahead and take our afternoon break. It's a little bit before 3:00. We will resume at 3:15. See you all shortly.
(Recess taken from 2:58 p.m. to 3:17 p.m.)
(Call to order of the court.)
THE COURT: Mr. Cavanaugh.
MR. CAVANAUGH: Thank you, Your Honor. Your Honor, we've handed up some documents that I may refer to in my examination.

## DIRECT EXAMINATION

BY MR. CAVANAUGH:
Q. We've met before. My name is Bill Cavanaugh. I'm counsel for Colorado and Nebraska.

Sir, in your current position as vice president and general manager of ads, you are responsible for the teams that build advertising products --
A. Yes.
Q. -- for Google? And that would include Google Ads and SA360?
A. Yes.
Q. And in your prior position as vice president for ad platforms and Google properties, you oversaw the product and engineering teams that would work on those products; correct? A. The product team or product and engineering teams, yes.
Q. Okay. Now, Google Ads is Google's native tool for advertisers to bid for the placement of ads on Google's SERP; correct?
A. That's correct.
Q. And every native tool has a number of features, does it not?
A. It does.
Q. Could you explain to the Court what a feature is?
A. Some of the functionality for setting up ad campaigns for managing the return on investment for configuring your ads,
measuring the value that you get, things of this nature, not just for search ads but also for other ad types offered by Google. It's the way that advertisers interact with the system. Q. Now, one of the features in the Google Ads native tool is what is known as auction-time bidding; correct?
A. That's correct.
Q. Okay. And auction-time bidding is a -- it's a bidding functionality that automatically adjusts the bid up or down in real-time at the time of the auction; correct?
A. That's correct. So for those billions of auctions per day that we were talking about, in a very short period of time, what it does is it reacts to those auction dynamics in order to set its bids. Very technically complex.
Q. And from Google's perspective, auction-time bidding is very valuable to advertisers; correct?
A. It's beneficial to advertisers, because it's better than the other alternatives.
Q. It lets them act on the most up-to-date information within an ad auction; correct?
A. That's correct.
Q. And to distinguish that from traditionally intraday bidding where bidding strategies can only be updated every six hours; right?
A. I'm not sure whether six hours -- I wouldn't anchor on six hours, but certainly less frequently than an ad auction.
Q. Sure. And auction-time bidding can help advertisers get a better return on their advertising investment than they would with intraday bidding?
A. That's correct. It's one of the features that they can use to get a better return on investment. There are lots of others. Q. Auction-time bidding allows advertising customers to optimize on their business objectives?
A. Yes. Any bidder allows customers to optimize based on their business objectives.
Q. And advertisers have been able to use auction-time bidding in the Google Ads native tool since 2016; correct?
A. I'm not sure of the exact date.
Q. But around that time frame?
A. I believe so.
Q. Auction-time bidding on Google Ads has had a high adoption rate by advertisers; correct?
A. Yes, yes, it has had a high adoption rate.
Q. And Google's goal is to have all advertisers on Google Ads using auction-time bidding; right?
A. Not all advertisers, but we would like -- the whole point of bidding software is so that we can understand the advertiser's underlying business objective so we can better align our objectives with theirs. So if we can understand their business objective and it's representative of their business objective, then yes, we like them to use the bidding software.
Q. And Google benefits in the long run by advertisers adopting auction-time bidding; correct?
A. We believe we benefit in the long run, but it's a bit of a bet. It's possible that when the advertiser sets their business objective, that Google is not able to meet their business objective, in which case their business will go elsewhere.
Q. But in the long run, if you're providing this advantageous feature, that provides a potential significant benefit to Google, does it not?
A. We hope it does, but again, it's a little bit of a bet. If we can't achieve their business objectives, they might go to Bing or Facebook or somewhere else.
Q. Let's turn to search engine management tools. If I refer to them as SEM tools, you will understand that phrasing?
A. Yes.
Q. An SEM tool is a centralized tool used for management of search ad campaigns across multiple platforms; right?
A. That's right.
Q. So an advertiser could use an SEM tool to place ads across native tools like Microsoft Ads or Google Ads; right?
A. That's correct.
Q. And am I correct that for search engines like Yahoo! and DuckDuckGo, they work through Microsoft Ads?
A. I believe that Yahoo! and DuckDuckGo both use Microsoft ads as the underlying technology, but there are other search engines
that have their own ad interfaces.
Q. But I'm talking in the United States, we have Yahoo! and DuckDuckGo. They both work through --
A. Microsoft Ad --
Q. -- Microsoft Ad; right?
A. -- functionality, yes.
Q. And the other native tools you're referring to, those are search engine platforms that operate outside the United States; right?
A. Let's be very precise. So the SEM tools support a number of search engines. Many of our advertisers operate in the United States and globally. There are three search engines -the four search engines that you described are the primary ones used in the United States, and there are other search engines in other markets. But the underlying driver for the advertiser to use across an SEM tool is so they can handle all of their search engines and then also in many cases ads from Facebook and Amazon using a single interface.
Q. And so to just summarize what $I$ think you just said, an SEM tool provides a centralized and integrated environment that makes advertising across multiple platforms easier and more accessible --
A. That's correct.
Q. -- for advertisers; right?

If we could put up PSX854.034, which is a -- I showed this
in my opening.
Let me ask you, referring to the Google Search Ads 360, this is Google's SEM tool; correct?
A. That's correct.
Q. And what we've depicted here is a basic overview as to how an SEM tool operates?
A. I mean, it's not strictly -- this is not strictly correct, but --
Q. Close enough?
A. It depends on what point you're making. I'm not sure --
Q. I'm simply making the point that SA360 or other SEM tools simply -- you work through them to get to the native tools of different search engines; correct?
A. That's not really how it works. How it works is the -- you can buy on Google Ads or you can buy on Microsoft using a front end like Google Ads or Microsoft advertising or through an API, an application programming interface, which is a standardized way for machines to talk to each other.

SA360 or another SEM tool will use the application programming interface. They won't go directly in through the front end and buy ads.

So that's the reason that the picture is not strictly correct, that they wouldn't actually go through the native tool. They'd use a separate interface.
Q. And they do that through multiple -- they can do that
through multiple native tools; correct?
A. They do that through multiple application programming interfaces that are offered by the providers that also offer the native tools, yes.
Q. Now, SA360 goes back to Google's acquisition of DoubleClick in 2008; correct?
A. That's correct. I forget what year the DoubleClick acquisition was, but SA360 was previously called DART Search, which was a DoubleClick tool.
Q. And at the time of Google's acquisition of DoubleClick, DoubleClick Search was the predecessor to SA360; correct?
A. That's correct.
Q. Okay. Peter, if we could go to PSX1109, which is already in evidence, Your Honor.

Mr. Dischler, this is a -- I will represent to you this is a public Google document from 2012.

> You were employed by Google in 2012?
A. I was.
Q. All right. And you were aware of Google's acquisition of Doubleclick at the time?
A. I was.
Q. All right. Now, if you would look at page 2, the second full paragraph, it begins "we believe." "We believe in analytics-based marketing on Google, Bing, Yahoo! or any other network or platform that delivers accountable results online.

We want online advertising to continue its growth trajectory and will always be a neutral third party, helping you achieve the highest return on investment, regardless of the online channel."

Sir, do you understand this to be Google representing to advertisers that it will operate its SEM tool as a neutral third party, regardless of what native tool is ultimately used?
A. I'm not sure I understand the last part of your question. Q. Sure.
A. What native tool is ultimately used?
Q. Yes. "Regardless of the online channel," and there's a reference up there to Google, Bing, Yahoo!. Those are different general search engines, are they not?
A. That's correct.
Q. All right. And so Google was representing that no matter where an ad was going to appear, no matter what general search engine it was, that if you used Google's SEM tool, it would be a, quote, neutral third party; correct?
A. That's the aim of the product, yes.
Q. All right. And Google has continued to promote that to advertisers to this very day, has it not?
A. I'm not sure what language they use today, but -- I'm not sure what language they use today, but this is the aim of the product, to be a neutral third party.
Q. So the message hasn't changed since 2012? Google still is telling advertisers, Come to us on SA360 because we will -- we
are a neutral third party, no matter where you want to run your ad, on Google, Bing, Yahoo!, or anywhere else; right?
A. Whatever supported platforms are available in the tool, we try to be a neutral third party.
Q. Okay. Now, Doubleclick Search was renamed SA360 in July of 2018; right?
A. I'm not sure what the timing was around that.
Q. Google charges a fee to advertisers for utilizing SA360; correct?
A. It does.
Q. Okay. If an advertiser only wanted to bid for ads on Google, there would be no reason to use SA360; right?
A. There might be a reason to use SA360, but most advertisers buy across multiple engines.
Q. But if $I$ was an advertiser and $I$ just wanted to go -- I recognize what Google's market share is, and I'm like, I'm only going to advertise on Google, there would be no reason to use SA360; right?
A. There's an advanced large advertiser functionality that we have that makes your life easier if you use SA360. So it's possible that we have advertisers using the platform who don't benefit from cross-engine support. Most do.
Q. But if an advertiser wanted to just use Google Ads and they went through SA360, they're incurring a fee they wouldn't otherwise need to incur; right?
A. Yeah, but I mean, large advertisers pay fees for all sorts of things. Sometimes they want premium support. Sometimes they want little additional features. Their time is very valuable.
Q. Now, you said SA -- I'm sorry. Google's auction-time bidding feature was available on Google Ads going back a number of years; correct?
A. Several years, yes.
Q. All right. And that was before it was available through SA360; correct?
A. Yeah, that's correct, because it was so technically complicated that we didn't know whether it would be possible to actually move over to SA360, but we figured out a way to do it after several years of development.
Q. And this was causing advertiser confusion; right?
A. It was.
Q. Advertisers were concerned about using the SA360 tool at the time, because they thought they might get a better performance if they went directly to Google Ads?
A. Using auction-time bidding, which in some cases they did and some cases they didn't.
Q. And you had a project NYX?
A. Yes.
Q. How do you pronounce that?
A. NYX.
Q. That was the internal code name for the product that
integrates Google Ads' auction-time bidding into SA360?
A. Yes.
Q. And you had a role in approving project NYX?
A. I did.
Q. And project NYX -- you and others at Google viewed project NYX as important because Google wanted advertisers to have the best functionality across all search engines?
A. We wanted -- we thought that it was important because we wanted them to have the best functionality on Google. Google was the first company in market with something like auction-time bidding, which again, the auction-time bidding functionality was very technically complex. Importing it over to a cross-engine SEM tool was even more technically complex.

So since we were the first to market with that
functionality, we thought it was important. Advertisers gave us good feedback on it. We wanted to support it in the product.
Q. And project NYX incorporated auction-time bidding only for Google Ads; correct?
A. That's correct, because we were the only player in the market who had auction-time bidding.
Q. Microsoft Ads had real-time bidding going back to 2016, did it not?
A. I don't believe Microsoft Ads had real-time bidding back to 2016 .
Q. When do you think they incorporated that into their -- into

Microsoft Ads?
A. I believe they did so after we did. I mean, the feedback that I got was that we were market-unique at the time.
Q. Before you integrated auction-time bidding into SA360, Microsoft Ads had real-time bidding on its native tool, did it not?
A. That's correct.
Q. Now, when it was -- when auction-time bidding was introduced for use through SA360, Google promoted the advantage of that to advertisers, did it not?
A. It did. We said that we had auction-time bidding functionality, and they knew that it was beneficial.
Q. So if we could turn to PSX909, which is in evidence.

And Jason Krueger is the project manager on Search Ads 360; correct?
A. He is the product manager.
Q. Okay. So he would have been within your group?
A. Yes. He's the product manager for that particular feature within Search Ads 360. He was not the product management lead for Search Ads 360 at the time.
Q. If we could look at the last sentence on the first page, it says, "During beta testing, hundreds of Search Ads 360 advertisers enabled Google Ads auction-time bidding and saw an average lift in conversions of 15 to 30 percent at the same or better ROI."

ROI is return on investment; correct?
A. That's correct.
Q. All right. And the 15 to 30 percent in conversions, conversions is when the user clicks?
A. No.
Q. It's when they -- explain to the Court what a conversion is.
A. A conversion is whatever event that an advertiser thinks is significant. It might be something like selling a product or visiting a store, filling out a web form, making a phone call. It's basically a significant business event for the advertiser. Q. So if I'm a retailer, in terms of a conversion would be not only does the user click onto my link, but completes the acquisition -- but then proceeds on the retailer's website to purchase the product?
A. To purchase the product -- different advertisers set up different conversion events, but just consider it a significant business event.
Q. So 15 to 30 percent is a significant improvement?
A. It's a significant benefit relative to our previous bidder for the set of customers that were included in the beta.
Q. And we can -- if you could now turn to PSX386.

It's also in evidence, Your Honor.
THE COURT: Can $I$ just ask one clarifying question? I
think I know the answer, but just to be clear, when we talked
about search text ads and Google getting paid by click, click literally just means clicking the ad? That's when Google gets paid as opposed to when a conversion occurs?

THE WITNESS: That's correct.
THE COURT: Thank you.
BY MR. CAVANAUGH:
Q. This is a e-mail from Amit Varia to a number of
individuals. And I would ask you -- why don't we take it off the screen, and if you could go to page 2.

Judge -- just take it off the screen.
If you see, there's some bolded language about a third of the way down the page.
A. Okay.
Q. This Mr. Breese report on the level of adoption of auction-time bidding, meaning SA360 advertisers?
A. Mr. Breese? Blake Reese?
Q. Yes.

THE COURT: I think you mean Mr. Krueger, it looks like.

THE WITNESS: Yeah, Blake Reese just said -BY MR. CAVANAUGH:
Q. Oh, you're right. My apologies.

Does Mr. Krueger report on -- thank you, Your Honor.
Does Mr. Krueger report on the level of adoption? Does he say "X percent plus of mixed customers are fully adopted"?
A. "80 percent of mixed customers are fully adopted." Yeah, I don't know what the -- so yes, I don't know what the denominator is here, though. I'm not sure if this means that 80 percent of the people who were in the couple hundred advertiser beta now are using it for all their campaigns.

Like I'm not sure what these depth and breadth metrics refer to. Like I don't think it's all -- because not all of the advertisers who use SA360 use our automated bidding functionality, and here, they rolled it out to a small percentage of the advertisers.

So I think the impressive metrics that he's reporting on are a relatively small population of folks using SA360. Q. Well, at least as to those customers that participated in the beta testing, 80 percent of them were now fully adopted in utilizing auction-time -- the auction-time bidding feature in Google Tools through SA360; correct?
A. Yes.
Q. Okay. And to the best of your understanding, have advertisers continued to utilize the auction-time bidding feature when utilizing SA360?
A. I mean, for the advertisers who have bidding adopted, they typically are going to use real-time bidding -- or auction-time bidding, which is a form of real-time bidding. The last stat that I ran suggested that the -- that the minority of our advertisers actually use our bidder within SA360. Some of them
use their own bidder. Some of them use manual bidders. That may have changed, though. So I don't have the current stats. It's not like every single customer of SA360 uses our bidding technology, though.
Q. Let me ask you to turn to PSX460 in the binder.

Your Honor, this again is admitted into evidence, and it has redactions. And based on the metadata, Your Honor, this is a December 17, 2020, document.

And if we go to page 4, there's a heading "why use an SEM tool." Now, in your position in 2020 in advertising -- this document is entitled "New Business Pitch" -- would you have been involved in hearing this presentation or in reviewing it?
A. No. This is a sales presentation.
Q. Okay. If we could move down to page 7, last sentence on the page, it reads, "As the experiences between Google Ads, Microsoft Advertising, and SA360 diverge over the last few years, we have had the strong feedback from users that they would prefer a common experience that would mean users would not need to learn two interfaces, allowing for a faster and more seamless onboarding to new team members."

That's referencing to utilizing a SEM tool such as SA360 rather than an advertiser having to use separate native tools; correct?
A. That's correct, although -- although the truth is, for many of our advertisers, they're often going into the native tools as
well. We haven't fully solved that problem.
Q. But the messaging that you were sending out in this -Google was sending out in this pitch was utilize SA360, because you're getting feedback from users that they want -- advertisers that they didn't want to use two separate tools?
A. That's right. I mean, they would prefer to use a single tool. We haven't fully solved the problem, however.
Q. Well, one thing that would solve that problem would be providing the same level of features for each of the native tools so that you could work seamlessly across those tools; correct?
A. That's not technically possible to do, though.
Q. If we could turn to page 31.
A. Can you give me the number in the bottom right-hand corner? I'm not sure which is page 31.
Q. I need to find it. THE COURT: 924. THE WITNESS: Okay. "Our ongoing enterprise vision"? BY MR. DAHLQUIST:
Q. "Our vision."
A. "Our ongoing enterprise vision"?
Q. On page 31, third paragraph, "Our vision is to continue to invest heavily in improving the experience within individual search engines and allow you to operate multiple search engines with ease."

That's the mission that you're telling advertisers for SA360; correct?
A. That's correct.
Q. Now, I believe you testified a moment ago that Microsoft Ads has a similar feature to Google Ads called real-time bidding; correct?
A. Correct.
Q. And at this time, Google does not offer real-time bidding for Microsoft Ads through SA360; correct?
A. I believe it's in beta.
Q. But as of today, it's not available? It's in testing?
A. Yeah, I believe it's in beta. The reason that we don't offer it is because of an unsolved technical problem.
Q. Counsel -- Mr. Dischler, why don't you just answer my question.

Now, you are aware that Microsoft requested real-time bidding support from Microsoft Ads on SA360 in the fall of 2019; right?
A. I don't recall the date, but that sounds roughly right.
Q. And you were involved in discussions about whether SA360 -whether Google would support real-time bidding for Microsoft Ads through SA360; correct?
A. Yes.
Q. Okay. And you are aware of Microsoft's dissatisfaction with the pace at which Google was approaching the issue of
adopting real-time bidding through SA360; correct?
A. I was.
Q. Now, you didn't have any of those discussions directly with --
A. Actually, let me revise my testimony.
Q. Sure.
A. I was aware that they were generally not pleased with the progress of feature adoption for a set of features. I was not aware that they were displeased with the support requests for real-time bidding, again since that was an unsolved technical problem that had yet to be discussed with them.
Q. Well, you are aware that project people at Google had supported doing alpha testing in the fall of 2019, aren't you?
A. Pardon? I'm not sure what you mean.
Q. Were you aware that people working on SA360 at Google in the fall of 2019 supported doing testing for real-time bidding through SA360?
A. I believe that they were supportive of engaging with Microsoft to do experimentation to see if it was technically possible to support that feature. Again, the discussion that we had on that feature was that we didn't know if it was possible to actually support it.
Q. And one way to figure that out would be to do some initial testing; correct?
A. Yes, which we subsequently did.
Q. Subsequently, years later; correct?
A. I don't believe it was years later.
Q. Okay. Well, was Microsoft told in March of 2020 that there would not be any testing done?
A. I'm not sure what Microsoft was told in March of 2020, I'm afraid.
Q. Okay. Now, you're familiar with project amalgam?
A. Yes.
Q. And that was a new SA360, was it not?
A. A new SA360? It was the next version of our product on upgraded infrastructure.
Q. All right. And it involves an integration of Google Ads and SA360 on the Google Ads stack?
A. Yes.
Q. Okay. The intended benefit of the project was better support for features within Google Ads?
A. That was the primary customer benefit. The primary internal benefit was that we had roughly 50 engineers who were reimplementing existing Google Ads features for no particular reason other than because it was on an SEM tool, and we thought that if we converged the infrastructure, we could then use those engineers to build value-added features like for other engines and other features that our most sophisticated advertisers wanted more quickly.
Q. And before this, features often in Google Ads needed to be
engineered to work in SA360; correct?
A. That's correct. There's still a bit of engineering that needs to happen on the back end even with amalgam.
Q. But now Google Ads features automatically work in SA360?
A. For the most part, yes, post-amalgam. We're going to be done at the end of the year.
Q. Let's turn to a different subject. Now, Amazon is one of the largest advertisers on Google SERP?
A. Yes.
Q. Okay. Google does not run ads on Amazon for Google Search?
A. That's correct.
Q. Now, if I do a search on Amazon for a product, I can complete the transaction on the Amazon website; correct?
A. Yes.
Q. Okay. In fact, that's the function of the Amazon site, to start and complete a transaction all in one place; right?
A. That's one function of the Amazon site.
Q. When I do a search for a product on the Google SERP, I have to go to the website of the seller to complete the transaction; correct?
A. Yes.
Q. Now, if I do a search based on a product name on Google, I will get the names of companies that sell that product; correct? A. The names of companies and potentially specific products themselves and the names of manufacturers and review sites and
all sorts of things.
Q. I might get newspaper articles about it?
A. Sure.
Q. Those companies that sell the product may not advertise on Amazon because some of them directly compete against Amazon?
A. That's correct.
Q. Okay. For example, companies like Walmart and Target advertise on Google, but they don't advertise on Amazon because they compete against Amazon for the sale of many of those products; correct?
A. That's correct. Instead, they advertise on places like Facebook and Tik-Tok and others.
Q. And on Amazon, I can only see competitor products -- strike that.

On Amazon, $I$ can only see ads from sellers who are prepared to sell their products through Amazon; correct?
A. That's not correct.
Q. I'm sorry?
A. There are other ad formats on Amazon that don't require that you sell on Amazon. You can advertise a movie. You can advertise your brand. In some cases, they direct traffic off of Amazon onto merchant sites, which is kind of similar to how Google Ads works.
Q. The basic function of Amazon, though, I think you just testified to a moment ago, is to complete the transaction within
the Amazon website; correct?
A. That's -- most of their ads complete the transaction on Amazon websites. Amazon is a big company. They have movies and music, and they have seller tools, all sorts of things.
Q. Now, over the years, you've had many conversations with advertisers, have you not?
A. Yes.
Q. All right. And that would include retailer advertisers?
A. Yes.
Q. Who run ads on Google?
A. Yes.
Q. Okay. And you've not had any conversations with advertisers comparing Google ad products with products sold by Amazon; correct?
A. We've had an enormous number of conversations with retail advertisers and consumer packaged goods advertisers on the relative effectiveness of Google versus Amazon advertising, as Amazon has grown incredibly rapidly over the course of the past five years.
Q. Let me ask you to turn to page 554 of your transcript. I think that would be the December 8th.

Mr. Dischler, when you gave your deposition on January 8th under oath, were you asked this question on page 554, line 5:
"Question: And so in talking to retail advertisers" -THE COURT: Hang on, Mr. Cavanaugh. You need to give
me a minute to get there.
MR. CAVANAUGH: I'm sorry, Your Honor.
THE COURT: That's okay. You said 554?
MR. CAVANAUGH: Yes. Line 5, Your Honor.
BY MR. CAVANAUGH:
Q. You were asked this question:
"Question: And so in talking to retail advertisers, is it your testimony you never compare Google's advertising to advertising offered by other companies?
"Answer: That I never compare Google advertising to advertising offered by other companies? I have talked about Google advertising on Facebook. I don't believe I've had a discussion on Google advertising relative to advertising on Amazon for retail advertisers."

Were you asked that question, and did you give that answer, sir, under oath?
A. I did.

MR. CAVANAUGH: Thank you. Your Honor, I don't have anything further in the public portion. I have a few questions in the confidential session.

THE COURT: Okay. All right. So we're going to go into another confidential session once more. And so if you are not affiliated with either of the parties, I'm going to ask you to please leave the courtroom, and we will take a minute to disconnect the public line.


































A. Okay.
Q. Very briefly, describe your educational background.
A. I have a bachelor's degree from the University of Chicago, and I have an MBA from the Wharton School at the University of Pennsylvania.
Q. When did you start working at Google?
A. 2005 .
Q. And when was it that you assumed your current role as vice president and general manager of the ads team?
A. June 2020.
Q. Okay. Just briefly describe the jobs you held before that at Google.
A. I was the product manager for three years, focused on payments and commerce. Then in 2009, I switched over to the ads team. I was a product manager on Google Ads qualities, the guts of the search ad system. I then was responsible for search ads product management. I took on the buying tools, YouTube ads product management and engineering and search ads engineering, and then the entire product sweep for advertising.
Q. Thank you. All right. So I'm going to ask you probably in the course of my examination questions about all the topics that were covered by both the DOJ plaintiff and the state plaintiffs. I want to quickly sort of lay out those topics and get a -- ask you a couple of questions.

The first topic you were asked about that I want to cover
is search ads and the importance of ads quality. What role does quality play in Google's search ads products?
A. We discussed it a little bit before. The objective of the search ads quality team is to show delightful ads to our users that satisfy their user needs. If we're able to do that, then the users will come back. Then we want to offer a good value to our advertisers. And then if those two things happen in the long term, then that leads to long-term revenue for Google. Q. If one of those things or both of those things fail, what happens then?
A. People will go to one of a number of other folks who provide ad solutions on the Internet or otherwise.
Q. Okay. Another topic we'll discuss in a little more depth tomorrow will be ads innovation.

Does Google innovate? We've heard a little bit about some of these launches. Does Google innovate in the ad space?
A. Constantly.
Q. Okay. And why?
A. In order to be market competitive. We want to -- I mean, there are two reasons. We want to offer good value to our users and our advertisers, and the second is, we're not the only game in town.
Q. Okay. Let me ask you about one innovation. I take it you're familiar with something called performance max?
A. Yes.
Q. Can you describe to the Court what that is?
A. Performance max is a way to buy across a wide number of surfaces on Google and then elsewhere on the Internet. The idea is that through machine learning, the creatives can be generated using AI. The bidding can be done automatically based on an advertiser's business objective. And then the matching of user and advertiser intent can also be done through artificial intelligence.

The idea is that an advertiser can come to us. They can provide us with a set of creative assets and a business objective. And then we earn the right to dynamically create the ad and show wherever it's most relevant for the user.
Q. And has performance max launched recently?
A. It launched about a year and a half, two years ago, and it's been our fastest growing ad product.
Q. You were asked various questions about advertisers measuring the value they get out of Google Ads. You heard terms like ROI and others.

Can you briefly describe your understanding of what advertisers find important when deciding how to spend their digital advertising budget?
A. Advertisers have various business objectives. If you're a local store, then you may care about foot traffic. If you're a gardener, then you may want the phone to ring. If you're an e-commerce retailer, then you want people to purchase. If you
sell subscription services, you may want them to be on your subscription service for a long time.

So advertisers have different value functions, and what we try to do is to get their value function from them expressed via business objective, and then achieve that business function so we align their incentives for the long term.
Q. And this term we used, the acronym ROI, return on investment, how does that play an important role as you understand it for advertisers?
A. Advertisers are constantly looking at their return on investment, and they're doing it not only on Google, but also on other channels like Facebook or Amazon or LinkedIn or Bing. Q. Let me throw out one other acronym. Are you familiar with ROAS?
A. Yes. That's the return on ad spend.
Q. Okay. Is that another measure that advertisers will look at?
A. Yeah. Basically what they do is they take a look at how much they're spending on advertising, and they take a look at how much they get in sales or business, and they compare the two.
Q. And does Google provide advertisers with tools that allow them to track their ROI or ROAS?
A. Absolutely. Not only can they track them, but actually, the majority of our advertisers bid based on those criteria. So
if we're unable to achieve their targets, then they will just stop spending.
Q. Okay. And how does Google know what their criteria are, what their ROI goals are?
A. They tell us.
Q. Okay. And again, if you're not giving advertisers the value they're seeking, based on your experience, what happens?
A. They'll go someplace else, or they'll stop advertising. So a good example of this was during the -- during the pandemic, there was a lot of uncertainty because people didn't know whether they could sell. And so they brought their targets down in order to -- in order to preserve optionality, because nobody knew what the effects would be on business.

THE COURT: Sir, can I ask just a basic question? Can you help me conceptualize what you mean by an advertiser tells Google what its ROI goal is? What does that look like when somebody sits down at a terminal to input information on behalf of an advertiser?

THE WITNESS: What they will do is they will tell us that for every dollar -- for every dollar that they get in sales, they're willing to spend 10 cents on advertising, let's say. And that target may be different for different categories.

So let's say that you have two different car models. One is a basic car model which may have a lower margin, and one is a fancy car model. What they'll do is they'll set targets that
are depending upon their profit margin. More sophisticated advertisers do it based on customer lifetime value so that they have these very sophisticated statistical models where they say this customer is likely to be worth more in year 3 than another customer, and they're willing to pay more for that. So this is how they express those business objectives.

And then we have a bidder that tries to achieve those objectives by buying certain ads in order to achieve their target. If we can't achieve their target, they stop spending. And often, they're taking a look across multiple channels. So they will just spend someplace else, like Facebook or Amazon or others.

THE COURT: If I'm a car person, I'm somebody who is regularly searching for cars, the algorithms or the software will detect that, and advertisers can make decisions -- the inputs will make decisions for them as to what the ROI should be for advertising to somebody like me?

THE WITNESS: That's correct. We have these machine learning algorithms that will try to predict how likely you are in order -- based on your query, as well as based on personalization, but primarily your query how likely you are to be able to achieve their business objectives. And then they will bid accordingly to achieve that objective.

BY MR. SOMMER:
Q. Another topic we'll get a little -- we'll get into a little
more tomorrow that you were asked about is the ads auction. At a high level, is Google's search ads auction designed to account for user quality?
A. Yes. So remember before I said that we had a variant in the generalized second-price auction. How the generalized second-price auction works is that the winner of the auction pays the runner-up or slightly more than the runner-up would pay.

What that means, though, is that the advertiser who has the highest willingness to pay would win. They need not necessarily be relevant to the user. So it could be that somebody trying to sell cars think that they would be the highest willingness to pay on whether queries. If we just had a regular generalized second-price auction, then they would be the highest bidder we would show on whether queries.

Instead, what we do is we have a consumer cost component which says how relevant is this likely to be for the user, and then we only show the ads if they have a significant willingness to pay and we think they'll be relevant for the user.
Q. And that's what you refer to as user quality, that the user is actually getting something relevant to their query?
A. That's correct.
Q. Okay. And why is it that Google places such an emphasis on user quality in the ad auction?
A. Because we want users to come back to Google and search for
lots of commercial topics, lots of topics generally, but commercial topics are important, too, so that we can earn the right to show great ads to them in the future.
Q. Is there a long-term value function that's built into the auction process?
A. Yes.
Q. Can you describe that to the Court?
A. It's -- I mean, we have a function called LTV, which is basically our best -- our best approximation of what the long-term user costs are for any given point in time. It's based on a series of machine learning models.
Q. Now, one additional thing related to this on user quality. If you showed more ads in response to a query, wouldn't that generate more revenue for Google?
A. It would.
Q. Okay. Why don't you do that?
A. Because it may not generate -- first of all, it may or may not generate more long-term revenue for Google, because we're so focused on quality.

And the second is, you know, we have four ads on top. We have -- up to four ads on top -- for a few percentage of queries that are highly commercial, we have four ads on top. We have a few ads on the bottom. We no longer have ads on the right-hand side. We want there to be a lot of organic value on the page in order to deliver value for our users.

And at the end of the day, it's sort of a gut call of the maximum that we're willing to show, which is, in fact, less than the other search engines are willing to show in terms of overall ad load.
Q. You anticipated my next question. Bing, for example, do they show more ads?
A. They do, yes.
Q. How about some of the search verticals like Yelp?
A. They show more ads on top.
Q. There are more and more $I$ could list; correct?
A. Yes.
Q. Now, you were asked a lot about pricing --

THE COURT: Counsel, if I could interrupt. It sounds like you're switching topics here a little bit. It's 5:00. Unless you want to wrap something up quickly.

MR. SOMMER: No, that's fine, Judge.
THE COURT: Why don't we stop for the day. It's 5:00. We will resume tomorrow at 9:30.

Mr. Dischler, we will see you tomorrow morning and will continue your testimony. I ask you not to discuss your testimony with anyone overnight.

MR. SOMMER: Judge, one thing I wanted to do before we adjourn for the day is hand up Google's exhibits, which are being offered without objection.

THE COURT: Mr. Dischler, feel free to step down.



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