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P R O C E E D I N G S

(Call to order of the court.)

THE COURT: All right. Welcome back, everybody.
Ms. Waszmer, whenever you're ready.

MS. WASZMER: Thank you, Your Honor.

ADAM JUDA, WITNESS FOR THE PLAINTIFFS, RESUMED STAND

CROSS-EXAMINATION (Continued)

BY MS. WASZMER:

Q. Dr. Juda, welcome back from lunch.

A. Thank you.

Q. So I think when we broke for lunch, I was about to ask you about the -- how the ad auction starts, but let me pause for one second.

Throughout the course of this trial, the Court has heard about Google's mission to organize the world's information to make it useful.

Let me just pause and ask you, do search ads provide users with useful information?

A. I believe so.

Q. Can you give the Court an example of how search ads might provide users with useful information?

A. Sure. So one could imagine it's approaching Mother's Day and one hasn't actually purchased your mother a gift for Mother's Day. And so you may go to google.com and issue a search for "overnight delivery of Mother's Day flowers."

1 And it would be my expectation that the search ads are more
2 likely to be providing you with some of those real-time
3 opportunities to purchase overnight flowers for one's mother
4 than the organic results might.

5 Q. Thank you, Dr. Juda. I'm going to address one topic that
6 our government colleagues raised yesterday about quality scores.

7 Do you recall that you were asked about quality scores 1
8 through 10?

9 A. Yes.

10 Q. Okay.

11 MS. WASZMER: Your Honor, I've just left Dr. Juda
12 several exhibits, and I'm going to ask my colleague, Rachel, to
13 pass up some copies. We've already given our government
14 colleagues some copies.

15 BY MS. WASZMER:

16 Q. Dr. Juda, I'm going to start with an exhibit that's been
17 marked for identification DX3049.

18 Do you see that?

19 A. I do.

20 Q. Okay. Are you familiar with DX -- the document that is
21 DX3049?

22 A. Can I take a moment to peruse it?

23 Q. Sure.

24 A. So this appears to be from Google's external help center
25 documentation describing the 1 through 10 quality score that we

1 provide to advertisers.

2 Q. Okay. And just for the record, Dr. Juda, if you know, who
3 is the audience for this sort of help page?

4 A. I mean, it's available to the general public, but it would
5 be my expectation that it would be advertisers who would be
6 consuming this in practice.

7 Q. Okay. And the title of this help page is "about quality
8 score"?

9 A. That appears to be correct.

10 Q. And let me just direct you to the first line of the help
11 page. It has a line that says, "Quality score is a diagnostic
12 tool meant to give you a sense of how well your ad quality
13 compares to other advertisers."

14 Do you know what that sentence means, that it's a
15 diagnostic tool?

16 A. Sure. So we compute the quality signals that are used in
17 the auction at the time of the auction, and it takes into
18 consideration a bunch of auction-time signals that aren't
19 generally available, such as the actual search that the user
20 issued.

21 So rather than -- so what we provide to advertisers instead
22 is something that we can actually sort of compute in a more
23 offline fashion, which is this aggregation of the auction time
24 quality signals to try and provide advertisers with a sense of
25 what their auction time quality signals may be in general.

1 Q. Okay. And Dr. Juda, looking down the page, there's, it
2 looks like, a light bulb. It says, "Good to know about quality
3 score."

4 Do you see that?

5 A. I do.

6 Q. Okay. And there's a second bullet point here that says,
7 "Quality score is not an input in the ad auction. It's a
8 diagnostic tool." And then the sentence goes on.

9 I believe yesterday you were trying to explain to the Court
10 the differences between this quality score 1 through 10 and what
11 was included in the auction.

12 Can you explain this bullet point, if you know what it
13 means?

14 A. Sure. So when it comes to the auction-time contribution --
15 or calculation of ad rank or LTV score, it's taking into account
16 auction-specific predictions of predicted click-through rate,
17 landing page quality, and creative quality. Those signals are
18 aggregated into above average, average, and below average, which
19 is what we provide to advertisers for each of those three
20 categories.

21 And so it's a diagnostic tool in the sense of an advertiser
22 can go into the interface, see that their predicted
23 click-through rate is reflected as being below average, which
24 then can provide them with a general sense that the auction is
25 likely predicting below average click-through rates on a whole.

1 So it gives a sense for whether their auction-time signals are
2 above average or below average.

3 MS. WASZMER: Your Honor, if there's no objections, we
4 move to admit DX3049.

5 MR. DAHLQUIST: No objection, Your Honor.

6 THE COURT: It will be admitted.

7 (Exhibit DX3049 received into evidence.)

8 MS. WASZMER: Thank you.

9 BY MS. WASZMER:

10 Q. Dr. Juda, I have put another exhibit on the stand for you
11 which is marked DX3050.

12 Do you see that?

13 A. I do.

14 Q. Okay. Do you recognize this page?

15 A. Can I take a moment to peruse it?

16 Q. Yes.

17 A. This appears to be an external help center article that's
18 describing the search-time quality signals that we predict for
19 use in the auction.

20 Q. Are these the signals that you were just describing that
21 are used in the ad auction?

22 A. To which signals are you referring when you ask that?

23 Q. When we were talking about the last help page, which is
24 quality 1 through 10, distinguished from signals using the ad
25 auction.

1 Is this a page that describes some of what happens in the
2 auction?

3 A. I believe so. This is referring to like the predicted
4 click-through rate, landing page experience, and creative
5 quality signals that are used at auction time.

6 Q. Okay. And Dr. Juda, I'm just going to refer you to --
7 there's a line at the very top of the page that states, "Higher
8 ad quality generally leads to better performance, including
9 better ad positions and lower cost."

10 If you know, what does that mean?

11 A. So in general, if one were to prove their ad's quality, I
12 would expect for the ad rank or LTV score to increase. And when
13 an ad's LTV score increases, either an ad usually stays in the
14 same position that it had been but will be able to pay a lower
15 cost, all else equal, or the ad rank may increase by
16 sufficiently large amounts that the ad may move higher on the
17 page and, thus, get a higher ad position.

18 MS. WASZMER: Your Honor, if no objection, we move to
19 admit DX3050.

20 MR. DAHLQUIST: No objection.

21 THE COURT: It will be admitted.

22 (Exhibit DX3050 received into evidence.)

23 MS. WASZMER: Thank you.

24 BY MS. WASZMER:

25 Q. Finally, Dr. Juda, one more page for you. I've put in

1 front of you DX3011. Just take a minute to have a look at that.

2 THE COURT: I'm sorry. Can I just follow up again?

3 I may have missed the explanation, but the statement that
4 counsel highlighted as "higher ad quality generally leads to
5 better performance including better ad positions," that, I get,
6 but it also says "at lower cost."

7 Can you explain why that representation is on this
8 document?

9 THE WITNESS: Sure. So the way that we compute the
10 price for an ad is basically answering a hypothetical question
11 of what is the least an advertiser could have bid in order to
12 receive their allocation in the auction.

13 So since the ad score is a combination of bid and quality,
14 if you improve your quality, then potentially you could have
15 submitted an even lower bid --

16 THE COURT: I see.

17 THE WITNESS: -- and still have had a higher score.

18 So when you're answering the hypothetical of how little you
19 could have bid, the higher you increase your score, the lower
20 the answer is to that hypothetical question.

21 THE COURT: Okay. Sorry, Ms. Waszmer, to interrupt.
22 I'm sure you're going to tell me each auction is different, but
23 can you just give me a general sense of how many advertisers
24 will be participants in an auction?

25 Take your example, for instance, overnight flowers. How

1 many different advertisers would Google expect just generally to
2 be in that type of auction versus, say, one for running shoes?

3 THE WITNESS: So probably it depends sort of like
4 where in the flow one tries to answer that question.

5 THE COURT: Sure.

6 THE WITNESS: Usually, when it comes to sort of like
7 our final, final determination of, let's say, who the top 4 ads
8 are going to be, we usually try to trim the number of candidates
9 to no more than a few hundred, because it's relatively
10 computationally intensive for us to be calculating all these
11 quality scores in real-time.

12 So we may start off with thousands of advertisers who may
13 have the word "flowers" somewhere in their accounts. You could
14 imagine every small business and large business that sells
15 flowers may have "flowers" as a keyword.

16 And so we basically have to do some very early upstream
17 estimates of who we think will be likely to win the auction. We
18 try and then winnow it down to the top few hundred most
19 promising candidates, and then those are the ones that will sort
20 of completely score, from which we will get one to four
21 actual -- or zero to four actual auction winners, depending on
22 the particulars.

23 THE COURT: And is it ever the case that someone who
24 is placing an ad can't get their ad ranked because the quality
25 of the ad is so poor?

1 THE WITNESS: It is certainly conceivable, depending
2 on the competitive dynamics within the particular industry. You
3 can imagine, there's many more than four businesses that sell
4 flowers.

5 THE COURT: Right.

6 THE WITNESS: And so, you know, there's probably a
7 natural distribution in terms of user preferences, quality of
8 experiences, et cetera. And so it's probably unlikely that we
9 would only ever be showing the exact same four advertisers, but
10 I could imagine if you're the 13,000th highest quality flower
11 shop, it's probably relatively difficult for you to get a lot of
12 traction unless you're willing to bid quite a bit.

13 THE COURT: All right. Thank you.

14 MS. WASZMER: Thank you, Your Honor. And we will get
15 to your question in a demonstrative shortly.

16 BY MS. WASZMER:

17 Q. Dr. Juda, just a few questions. I think I asked you to
18 have a look at this exhibit. My question to you is, have you
19 seen this before, and do you know what it is?

20 A. So I'm not sure I've seen this before, but perusing the
21 document, this appears to be a set of best practices for how an
22 advertiser could use the diagnostic tool to benefit themselves.

23 Q. And, Dr. Juda, stepping back from the document, are there
24 ways that an advertiser -- I think I asked you this before, but
25 to put the question to you again, are there ways that an

1 advertiser can improve quality?

2 A. Certainly.

3 Q. Can you explain to the Court how an advertiser can improve
4 quality?

5 A. Sure. So one option available to them is to provide better
6 written word regarding what the ad copy should look like. You
7 could imagine that, you know, if you're a flower shop and the
8 search is "flowers" and your ad copy just says "we sell
9 flowers," that may not be a terribly engaging or informative ad
10 for the user. Whereas, if you were to change your ad copy to
11 say, you know, "we sell beautiful fresh roses, super deal now,"
12 you know, "click to learn more," that may be more informative
13 for a user and so therefore more engaging for them and likely to
14 result in higher quality.

15 In addition, advertisements point to the advertiser's
16 website. And so that's also a part of a user's experience, as
17 estimated through the landing page quality signal. And so
18 similarly there, if one constructs a website that is more
19 relevant to a user's search, that's easier to navigate, easier
20 to conduct business on, these are all things that would likely
21 make the landing page more convenient to a user and so ideally
22 be reflected in improvements in our predictions of landing page
23 quality.

24 Q. And, Dr. Juda, just looking at the first page, there's a
25 note that says "review your quality score components," and I

1 think you just described "landing page." This also states
2 "expected click-through rate" and "ad relevance."

3 I think you mentioned expected click-through rate, but can
4 you describe what ad relevance is.

5 A. Yeah. So ad relevance -- are you asking concept or how it
6 relates to the back-end quality terms?

7 Q. In concept.

8 A. So this would be sort of the aggregated view of what we
9 usually think of as predicted creative quality from an internal
10 system. So roughly speaking, is the quality of your ad copy
11 generally above average, average, or below average.

12 MS. WASZMER: If there's no objections, we move to
13 admit DX3011.

14 MR. DAHLQUIST: No objection.

15 THE COURT: It will be admitted.

16 (Exhibit DX3011 received into evidence.)

17 MS. WASZMER: Thank you, Your Honor.

18 BY MS. WASZMER:

19 Q. Let's put up our demonstrative.

20 Your Honor, this is a set of demonstratives. I think we've
21 handed up a copy to you and your team, DXD11.

22 Dr. Juda, we've also given you a binder, but it should be
23 on the screen also, so whatever you prefer.

24 Let's go to the table of contents, and, Dr. Juda, we will
25 be talking about ad auctions, search ads and ads quality, long-

1 term value, and then ads launches.

2 Okay. Let's go to the first slide. Okay. And let's put
3 up a query.

4 Dr. Juda, this is a demonstrative that has the page at the
5 bottom 003. What's depicted here?

6 A. This appears to be the google.com home page with a user
7 expressing as a search "rental car in NYC."

8 Q. Okay. Dr. Juda, in your experience, does Google show an ad
9 on every query?

10 A. No.

11 Q. Why not?

12 A. So for a large majority of searches, while we have
13 advertisers interested in showing ads on those searches, our
14 quality systems have determined that they're of insufficient
15 quality for us to find it worthwhile to show to Google's users.

16 Q. So just to pause on this query, "rental car in NYC," in
17 your experience, and I think the Court asked you about
18 advertisers who might show up for the auction, could there be
19 advertisers that show up for this auction that are not rental
20 car companies?

21 A. Yes.

22 Q. Okay. Let's go to the next demonstrative, which is 004.

23 Dr. Juda, what's being depicted here?

24 A. So what we appear to have here are four comical characters
25 who appear to be participating in a search ad's auction.

1 Q. We have selected these to be very Googley. Okay.

2 Dr. Juda, do you see some numbers and also some keywords
3 here? Can you explain to the Court what the numbers are and the
4 keywords here?

5 A. Sure. So if we focus on character A, she appears to be
6 submitting a maximum cost per click bid of \$4 per click and had
7 submitted a keyword to the system of "transit options NYC" that
8 it appears that our system identified as potentially being
9 relevant to the search "rental car in NYC."

10 B, C, and D would all be of a similar form where we have
11 different advertisers expressing different maximum willingness
12 to pay per click and with different keywords that our system
13 identified as potentially being relevant to the search "rental
14 car in NYC."

15 Q. Okay.

16 THE COURT: This is actually -- maybe this was an
17 obvious point I missed at some point, but keyword doesn't just
18 mean word. It also can include phrases that people purchase?

19 THE WITNESS: So advertisers can basically express any
20 text string they want of however many words. Advertisers can
21 furthermore specify how -- on some level, how different or how
22 broad can the search be from their keywords.

23 So an advertiser, you know, for example for like "transit
24 options NYC" could say I only want my keyword to match searches
25 that mean the same thing. They could also say I'm also

1 comfortable with it matching similar thematic notions that maybe
2 aren't identical in semantic meaning to this term.

3 And so when the system receives a search term, one of the
4 very first things it does in the flow is it looks out over our
5 hundreds of thousands, if not millions, of advertisers and just
6 asks what are all the keywords that advertisers specified that
7 are eligible to match this search term.

8 MS. WASZMER: Thank you, Your Honor.

9 BY MS. WASZMER:

10 Q. And, Dr. Juda, so that no one gets confused, we're going to
11 use A, B, C, and D, and we've named the bidders here. These are
12 advertisers Alice, Barb, Charlie, and Deb. I will try to keep
13 the names straight.

14 A. Sure.

15 Q. So, Dr. Juda, we see keywords like the Court just asked
16 here, and the keywords appear to have some varying match to the
17 actual query.

18 Do you see that?

19 A. I do.

20 Q. What happens when there isn't a close match?

21 For example, for the rental car query, Alice has "transit
22 options NYC," which seems less close than some of the other
23 keywords.

24 What happens when the advertiser 's keyword isn't that
25 close?

1 A. So certainly, if a keyword is extraordinarily far away from
2 a search, it's unlikely that the serving flow would even pick it
3 up in the first place.

4 So probably as a very clear example, you could imagine
5 there's an advertiser out there who has the keyword "medical
6 insurance." Medical insurance has nothing to do with rental car
7 and NYC. So the keyword matching technology wouldn't even be
8 grabbing that keyword in the first place.

9 In this instance, "transit options NYC" may be sufficiently
10 close to the query that the serving system would grab, it but I
11 don't know the particulars for this instance.

12 Q. Okay. And, Dr. Juda, so we've talked about inputs to the
13 auction, the bid, and the keyword. I think in response to our
14 government colleague's questions yesterday, you spoke about the
15 components of quality.

16 But just for the record today, can you explain to the
17 Court, what are components of quality from here in the auction?

18 A. So we would be computing three main quality signals. The
19 first would be a predicted click-through rate, so how likely is
20 a user to click on Alice's ad in response to the search.

21 The second signal would be a prediction of creative
22 quality. So that would be trying to, you know, roughly predict
23 the quality of the content of the ad that a user would see with
24 respect to this search.

25 And then there would be a prediction of landing page

1 quality. So Alice's ad is presumably pointing to Alice's
2 website. And so we would look at that landing page to which
3 Alice's ad points, and we would ask how relevant is that landing
4 page to this search.

5 Q. Okay. And, Dr. Juda, we will come back to this, but we see
6 Alice has a \$4 bid, which is the highest of the four.

7 Do you see that?

8 A. I do.

9 Q. Does the highest bid automatically win in the search ads
10 auction at Google?

11 A. No, it's not a necessity.

12 Q. Why is that?

13 A. So we rank ads based on ad rank or LTV, which is a
14 combination of bid and quality. And so it's quite possible that
15 just because you are the person submitting the highest
16 willingness to pay, it doesn't mean that your ad has the highest
17 combination of both bid and quality.

18 Q. Okay. Now let's move to the next demonstrative, which is
19 now showing a SERP.

20 Dr. Juda, can you tell the Court what this is showing?

21 A. So this appears to be an example of what a Google search
22 results page could look like in response to the search "rental
23 car in NYC," and it appears to feature three text ads followed
24 by an organic result.

25 Q. Now, I think you testified about this yesterday, but I

1 took, I don't know, two or three minutes to get to this stage.

2 How quickly does your team have to move to get to this
3 page?

4 A. So in general, our service level agreement is 250
5 milliseconds, so a quarter of a second.

6 Q. And I believe yesterday, in response to my government
7 colleagues, you started to talk about this, but what happens if
8 your team misses that split second?

9 A. If we take too long, an organic search is ready. They move
10 on without us.

11 Q. Okay. I'm going to pause. Let's go to the next
12 demonstrative. We're going to put another query in, "stainless
13 steel knives," and then let's show the SERP. Okay.

14 Dr. Juda, just because in the course of this trial the
15 Court will see different types of SERPs, can you explain what
16 this SERP is showing on the page? So let's start with what's
17 being shown horizontally across the top.

18 A. Sure. So the horizontal unit, which features a bunch of
19 images of knives, would be shopping ads or product listing ads.
20 So their layout is usually a horizontal carousel.

21 And then underneath the shopping ads, we have two instances
22 of text ads, and then underneath that is a single organic result
23 that appears to be going to Amazon.

24 Q. So when is the user going to see this type of SERP with ads
25 across the top that are shopping ads and then the text below

1 versus the rental cars SERP that we saw before?

2 A. So with our product listing ads, the way that advertisers
3 match searches is via Google matching user searches to a product
4 feed that's specified by the advertiser. And so normally, in
5 practice, what this means is that product listing ads only
6 appear on searches that are more retailer product oriented.

7 In contrast, since text ads offer a more free-flowing way
8 for advertisers to target searches, they will sort of run the
9 whole gamut of the kinds of searches that they may show against.

10 Q. Okay. Dr. Juda, so I think you mentioned a few components
11 of quality. I just want to make sure that we've defined these
12 components in the record.

13 Can you talk about -- when you talk about landing page, can
14 we go back to what that means?

15 A. Sure. So when an advertiser is providing their inputs, one
16 of the things that an advertiser specifies is the website to
17 which a user should be directed when a user clicks on that
18 advertiser's ad. And that destination is the landing page.

19 Q. How does Google arrive at a prediction with regard to the
20 quality of an advertiser's landing page?

21 A. So there's two stages to that process at a high level. At
22 the first stage, we show a lot of human beings examples of
23 searches and landing pages and ask them to answer a variety of
24 questions that are usually of the form is this a good landing
25 page or a bad landing page for a particular search.

1 At that point, we have a large repository of data of what
2 people are telling us are good matches or bad matches. And then
3 we use that as a ground truth which feeds into our machine
4 learning systems, which roughly can be thought of as systems
5 that try and observe and detect patterns between the landing
6 pages, the grade that the human raters have been providing, so
7 that in the future when someone issues a new search and we're
8 considering a new search and landing page combination, the
9 machine learning system ideally has already internalized a bunch
10 of patterns that it had previously learned and so therefore can
11 come up with a prediction regarding goodness or badness of the
12 experience.

13 Q. Can you explain to the Court what might be not a good
14 landing page experience for a user?

15 A. Sure. So there's a very wide spectrum of quality for
16 something like that. So I guess if we start from least good to
17 most good, for a search like stainless steel knives, the least
18 good ads would be a variety of landing pages that are policy
19 prohibitive, ads that are advertising illegal substances,
20 illegal arms, narcotics, sort of all the things that you're not
21 allowed to advertise within our system. Ideally, those landing
22 pages never actually see kind of the light of day.

23 From there, we probably have landing pages that are
24 completely policy compliant; they're just irrelevant. So for a
25 search like stainless steel knives, if an ad points to a landing

1 page about medical insurance, we would say this is just
2 irrelevant, it's not at all speaking to what the user is
3 interested in, and so that would be unusually low quality,
4 although it's potentially a perfectly legitimate product to be
5 advertising more generally.

6 From there, you potentially have landing pages that are
7 somewhat relevant but perhaps product adjacent. So for a search
8 like stainless steel knives, perhaps the landing page is about
9 ceramic knives. Where some people may find that a totally
10 reasonable substitute because it's a sharp pointy object, but
11 other users may be completely offended that we would somehow
12 equate ceramic knives with stainless steel knives if they have
13 very strong affinity towards the material of their sharp pointy
14 objects.

15 And then finally, you would have landing pages that are
16 probably directly on point, so landing pages that are actually
17 about stainless steel knives. But even there, you can have some
18 subtlety, because my guess is there are \$50 stainless steel
19 knives and \$10,000 stainless steel knives, and it may not be
20 that all users would consider both of those experiences like
21 equivalently useful or productive for whatever their commercial
22 task may be.

23 Q. Okay. So, Dr. Juda, we are going to put the SERP back up
24 with rental cars, and now we've just put some bidders on the
25 side. Let me ask you about two additional terms.

1 Do you use the term "ad format"?

2 A. I do.

3 Q. Okay. What does "ad format" mean?

4 A. So for me, I usually think of an ad format as being
5 optional pieces of information that may be annotated onto ads.

6 Q. And looking at the SERP here, is there anything on this
7 SERP that you would refer to as an ad format?

8 A. I would. So looking at -- was Charlie C?

9 Q. Charlie, yes.

10 A. Charlie, okay, great. So looking at Charlie's ad, there
11 are three indented sections that start with "fine cars near
12 you," "how it works," and "getting started." That is optional
13 information that we refer to as the "site links unit."

14 On this occasion, it would potentially take the user to a
15 different landing page within this advertiser's site than the
16 headline would.

17 Q. Do you use the term "ad extensions" at Google?

18 A. I usually don't, but there certainly are Googlers who do.

19 Q. What does "ad extensions" mean, if you heard it?

20 A. So for me, I consider ad extensions and ad formats to be
21 sort of the same concept, which is optional information that can
22 be presented to a user.

23 I think those that work more explicitly on ad extensions
24 and ad formats, there's some nuance there where they consider
25 them different, but for me, I've always just thought of them as

1 additional pieces of information on an ad.

2 Q. And a final term before we show some more about the
3 auction, ad copy, what does "ad copy" mean?

4 A. So for me, ad copy would represent the actual information
5 that one is viewing on google.com when looking at an ad.

6 Q. And how does Google arrive at a prediction of -- about the
7 ad quality?

8 A. Ad quality in general or the ad copy specifically?

9 Q. Ad copy specifically.

10 A. So it uses a similar process as what I was describing for
11 landing page quality where we have a bunch of humans, and we
12 have them look at searches, and we have them look at examples of
13 advertisements. And we ask them a variety of quality oriented
14 questions saying is this ad relevant to the search, does this ad
15 progress you on your journey if you were to click on it, do you
16 think this ad is misleading.

17 That then serves as the ground truth that goes into our
18 machine learning systems, which then try and identify patterns
19 between what does an ad look like when humans are saying that
20 this ad looks good, and then we try and apply those patterns in
21 real-time when seeing new instances of searches and ad copy to
22 come up with a prediction.

23 Q. Thank you. And, Dr. Juda, can you point the Court to an
24 example of ad copy on this page?

25 A. Sure. So it's -- in my mind, it's probably everything that

1 you're seeing between the word "sponsored" for both Charlie and
2 Barb's ads. And in the case of Deb, the ad copy would be
3 everything beneath the word "sponsored" but above the word
4 "Enterprise rent a car" within the organic results.

5 So all the text you see in this instance would be the ad
6 copy, I guess along with the image of a vehicle in the first ad.
7 Q. Okay. So you testified this morning about the predicted
8 click-through rate, or pCTR. I want to ask you a question
9 taking the example of poor Charlie here.

10 If Charlie is repeatedly clicked on, users click on the ad,
11 does that impact Charley's pCTR over time?

12 A. If the propensity for users to click on that ad is
13 increasing over time, then I would expect the predicted
14 click-through rate to also increase over time. If user
15 propensity for clicking on ads matches what our predictions were
16 expecting, then I would expect the predicted click-through rate
17 to stay flat, because the system would probably feel like it's
18 correct.

19 Q. Does an advertiser's pCTR ever improve over time without
20 the advertiser itself improving quality?

21 A. It can.

22 Q. Okay. Why would that happen?

23 A. So a good example is probably the holiday shopping season
24 in the United States, sort of that cyber week of Thanksgiving to
25 cyber Monday. A lot of Americans are actively purchasing gifts

1 for family members. And so all else equal, they are probably
2 going to be clicking on ads more often than they usually do,
3 because they're looking to purchase products more often than
4 they usually do. And that would be true even if the
5 advertisements are saying the exact same thing that they're
6 always saying.

7 So that would be an instance where users are clicking on
8 ads more even though the ads themselves haven't changed.

9 Q. Okay. Thank you, Dr. Juda. Now what I'm going to do,
10 let's go to the next demonstrative. Okay. I've put our same
11 bidders with the same bids that we saw before, and let's do the
12 horizontal columns. Okay.

13 Dr. Juda, are these some of the components of quality that
14 you had -- that you had discussed before?

15 A. Let's see here. So pCTR, yes; quality of ad copy, yes;
16 landing page experience, yes; overall bid plus quality, I guess,
17 would be the LTV score.

18 So the final two columns to me right now in concept seem
19 similar, but I believe I talked about all of these.

20 MS. WASZMER: Your Honor, we're going to put some
21 hypothetical data into this chart, just so that Dr. Juda can
22 explain.

23 BY MS. WASZMER:

24 Q. Dr. Juda, just have a look at this for a moment, and when
25 you've had a chance to look at it, if you can explain to the

1 Court what is being depicted here.

2 MR. DAHLQUIST: Your Honor, I just want to note that
3 Dr. Juda was not noticed or identified as a 702 expert, and
4 we're talking about hypotheticals. So as long as we're not
5 asking for an expert opinion, we have no objection. To the
6 extent we're going into expert opinion territory, we do object.

7 MS. WASZMER: Your Honor, we are not eliciting expert
8 opinion. What we're showing you actually could even be seen on
9 public videos about how the ad auction works.

10 THE COURT: This doesn't veer into that territory.
11 So go ahead.

12 THE WITNESS: Okay. This appears to be a conceptual
13 demonstration of how we're taking a variety of the inputs into
14 the auction. It ultimately computes an LTV score for each
15 advertiser's ad.

16 BY MS. WASZMER:

17 Q. And I believe the Court asked about advertisers that may
18 have low enough quality not to be shown. Taking a look at the
19 scores on the right-hand side, what does it mean that Alice, the
20 bidder with the highest bid, \$4, has a negative 5 score?

21 A. So that would imply that Alice is not going to receive an
22 impression within this particular search even if Alice were the
23 only bidder participating.

24 Q. And what is the threshold level for a score that an
25 advertiser has to reach in order to have a chance to have an ad

1 shown?

2 A. Zero.

3 Q. Okay. Let's do the next demonstrative, which is 10. Okay.

4 We've now sorted the same information just to show the score.

5 Dr. Juda, with the negative 5, what happens to Alice in
6 this ad auction?

7 A. She will not receive an impression, and so we will probably
8 only be showing three ads on this result page, even though we
9 could show up to four in theory.

10 Q. Okay. So let me just pause on her bid.

11 So she did have the highest bid here. Does it occur that
12 the advertiser that had the highest monetary bid isn't shown?

13 A. That is possible.

14 Q. Okay. Now, let's just pause. Let's go to the next
15 demonstrative. So I will promise the Court we're not going to
16 go deep on the LTV.

17 Dr. Juda, you were shown this equation yesterday; correct?

18 A. I believe so.

19 Q. Okay. Who came up with this function at Google?

20 A. I guess the answer would be me and some of my engineering
21 colleagues when we launched this several years back.

22 Q. And do you recall Mr. Dahlquist asked you about the beta?

23 A. I do.

24 Q. Okay. And I just want to refer you back. At a certain
25 point, Mr. Dahlquist asked you about what happens to an

1 advertiser that has low quality and whether the beta would be
2 higher or lower.

3 Do you recall that?

4 A. I think so.

5 Q. Okay. If you have an advertiser with low quality, what
6 happens to that beta?

7 A. That beta term will increase in magnitude.

8 Q. Referring back to Alice, the bidder in the prior chart, if
9 the beta is large, what is the -- can the advertiser end up with
10 a negative score?

11 A. Could you repeat the question?

12 Q. If the beta is large, can the advertiser end up with a
13 negative score?

14 A. It's possible if the beta term is greater than the bid
15 times pCTR computation.

16 Q. Okay. We can take this down.

17 Let's go back to the second-price auction. Do you recall
18 being asked questions about the second-price auction?

19 A. I think so.

20 Q. Okay. Dr. Juda, was there a -- do you know what the
21 difference is between a second-price auction and a first-price
22 auction?

23 A. I do.

24 Q. Okay. What's the difference?

25 A. So in a first-price auction, an auction winner will be

1 charged exactly what they had submitted as their bid. In
2 contrast, within a second-price auction, an advertiser is not
3 necessarily charged exactly what they bid but rather will be
4 charged the lowest amount they hypothetically could have bid in
5 order to receive their allocation within the auction that they
6 were provided.

7 Q. Okay. Let's put up the demonstrative that is 012. Okay.

8 Same bidders, same advertisers. So, Dr. Juda, I'm going to
9 put some values into the right-hand side, which is just
10 hypothetical values to try to ask you questions about
11 second-price auction.

12 Okay. So we have Charlie who is the first bidder, and
13 Charlie has bid \$2 and then has an amount lower than that,
14 \$1.58, as a CPC.

15 In an auction, can a bidder pay lower than their max CPC?

16 A. Yes.

17 Q. Why is that in a second-price auction?

18 A. So as I was just mentioning, the amount that we charge an
19 advertiser is the least that they hypothetically could have bid
20 while still receiving their allocation. And it oftentimes can
21 be the case that the advertiser could have submitted a lower bid
22 than they did and still win whatever their allocation had been.
23 So they would be charged less than their bid.

24 Q. Do you recall earlier today Mr. Dahlquist asked you
25 questions about the LTV equation and whether -- and I'm going to

1 quote, whether the LTV equation is a basic or vanilla way that
2 Google can impact pricing through the search ads auction
3 process? Do you remember that question?

4 A. I think so.

5 Q. Let me just ask you, does LTV play any role in the
6 second-price auction?

7 A. It does.

8 Q. Can you explain to the Court what role it plays?

9 A. Sure. So maybe by way of example, if we are looking at
10 Charlie and trying to compute Charlie's CPC, we are -- we're
11 asking the question what's the least that Charlie could have bid
12 and still have had a higher LTV score than Barb.

13 So Barb in this example has an LTV score of 15. So we
14 would be asking ourselves what's the least that Charlie could
15 have bid to have an LTV score of 15 or higher.

16 The answer in this example appears to be \$1.58. So
17 therefore, \$1.58 is what Charlie would be charged as a cost per
18 click.

19 Q. Now, let's look at Deb, who is at the bottom. As we know,
20 Alice got dropped below. So in this particular auction, she's
21 got no one behind her.

22 Do you see that?

23 A. I do.

24 Q. Okay. The question for you, Dr. Juda, is given that
25 there's no one behind her, why isn't Deb paying, let's say, a

1 penny? What's the reason for that?

2 A. So we still have our quality threshold that requires that
3 an ad rank be greater than zero in order for an ad to be
4 eligible to show.

5 So in this particular instance, when we're thinking about
6 the CPC for Deb, we would be answering the hypothetical question
7 what is the least that Deb could have bid given her quality for
8 her LTV score to be zero or higher.

9 In this instance, it appears that it would have required an
10 83-cent bid in order for her LTV to be zero. So therefore, she
11 will be charged 83 cents.

12 Q. Dr. Juda, if you know, why does Google use a second-price
13 auction for search text ads rather than some other type of
14 auction?

15 A. I think in general it's because we consider it to be a more
16 advertiser-friendly auction mechanism.

17 So you can imagine in an example like this, if we were
18 charging Charlie exactly the \$2 that Charlie bid, Charlie might
19 naturally wonder, if he lowers his bid to \$1.75, might he still
20 win the exact same first position that he's in but pay 25 cents
21 less per click.

22 And in this instance, the answer would be yes, and so he
23 would probably realize okay, well, then let me switch my bid to
24 \$1.75, and he would probably be continuing to ask that question
25 of himself.

1 You can imagine then extending that to all advertisers
2 where all advertisers may be constantly trying to move their
3 bids up or down to see if they can get the same outcome for less
4 money, which from my view is not only somewhat burdensome on
5 advertisers because they're constantly having to be changing
6 their bids, but it could also be somewhat burdensome on our
7 advertising system because we would then have to be consuming
8 all these changing bids at all times and processing them.

9 Alternatively, with the second-price auction, because
10 Charlie is only being charged the least they could have bid,
11 there is less of a need for them to worry about small changes in
12 bids to somehow get a better outcome, because they're already
13 kind of getting the best price available for what it is that the
14 auction had given them.

15 Q. Okay. Thank you, Dr. Juda. So we can take this down.

16 So we've done ad auctions. Let me now turn to ad launches.

17 A. Okay.

18 Q. Mr. Dahlquist asked you a bunch about ad launches, but let
19 me just pause almost definitionally.

20 The Court has heard testimony throughout this trial about
21 product ad launches, launching this ad type or that ad type.

22 Can you explain to the Court in ad quality what you
23 consider a launch to be?

24 A. For me, it's probably most any change to the code base
25 that's been made available to 100 percent of traffic/users.

1 Q. Okay. And how many launches -- just on average, how many
2 launches a year do you have in ads quality?

3 A. So it's not a number that I've been tracking lately. When
4 last I was looking at such things, it was usually a few hundred
5 launches a quarter. So probably either several hundred to low
6 thousands over the course of a year.

7 Q. Is there advertiser value created by ads quality launches?

8 A. I believe certainly by some of them, yes.

9 Q. Okay. Explain. How is advertiser value created by ads,
10 ads quality launches?

11 A. So there's certainly a variety of launches that can end up
12 providing advertisers with more traffic than what they had
13 previously received. More traffic means more opportunities for
14 an advertiser to sell their good and service, which in turn
15 likely means actual increases in them selling their goods and
16 services, which is advertiser value, in my mind.

17 Q. In your experience at Google, when an ad launches, whether
18 it's a series or one ad launch creates advertiser value, does
19 Google seek to share in that value?

20 A. It probably varies from launch to launch. I think
21 sometimes we have launches where advertiser value is created and
22 we just sort of say good job to ourselves and call it a day.

23 I think there's been other launches where we have created
24 advertiser value where we felt that the value creation was
25 disproportionately skewed in one direction. And when those

1 things happen, we do sometimes think about subsequent launches
2 that maybe try to split the value a little bit more
3 proportionately between advertisers and Google.

4 Q. And let's take that second category. Is there any instance
5 that comes to mind?

6 A. Sure. Format pricing would probably be an example of the
7 follow-on launch relative to the original introduction of ad
8 formats. When we first introduced ad formats, the net effect
9 was one where advertisers received more traffic but roughly
10 speaking were spending the same amount of money as they always
11 were due to some artifacts of how it flowed into predicted
12 click-through rate, which is a nuance that potentially I don't
13 need to go into.

14 So the net effect was, we had a launch. Advertisers
15 generated more value; Google generated seemingly no additional
16 revenue. And this to us seemed a bit disproportionate, because
17 we are paying engineers to work on these launches, we are having
18 to pay for a bunch of machines to make these launches available.
19 So we did incur an expense to provide this innovation, and yet,
20 we received to a first order no compensation for said expense.

21 Q. And just for the Court to understand, with format pricing,
22 when you talk about the format, what format were you talking
23 about on the page?

24 A. So in that graphic that we were looking at previously,
25 there was an example of an ad format --

1 (Alarm.)

2 A. Oh, 2:20.

3 So within that graphic we were looking at before, there
4 were three indented sections that I had referred to as the "site
5 links ad format." That would be an example of an ad format that
6 likely was creating more traffic for the advertiser that had
7 received said ad format.

8 Q. Okay. And, Dr. Juda, just so the Court can see it, you
9 were talking about the top ad slot here?

10 A. That is correct, in particular the section that spans from
11 "find cars near you" through "getting started."

12 THE COURT: Can I ask you a question?

13 So the side links ad format, in the hypothetical here, the
14 top advertiser has elected to present an ad in that format; the
15 other seem not to have done so.

16 Is that an advertiser-driven selection? I assume it is in
17 terms of how they present the ad.

18 THE WITNESS: Regarding how the ad formats appeared?

19 THE COURT: Yes. Whether, for example, an
20 advertiser -- an advertisement contains the site links.

21 THE WITNESS: Sure. So it's quite possible here that
22 both Kyte and Kayak had provided us the optional content that
23 could allow us to show site links. The reasons why they didn't
24 appear are multiple.

25 As one example, we have a limit on the total amount of

1 vertical height that the ad unit can consume. And in general,
2 when we make our decisionmaking, we go position by position.

3 So the advertiser in the first position on the page could
4 be sort of like the first one to get a crack at having ad
5 formats put on them. And as you go further down the page,
6 there's inevitably less space available. So we may just not
7 have the vertical pixels remaining for us to consider putting an
8 ad format, even if we wanted to do so.

9 THE COURT: I see. And then if you are the -- placed
10 in a position where you have site links which Google has
11 determined increases the odds of a click-through, how does that
12 impact the price the advertiser pays?

13 THE WITNESS: So there's been a couple of different
14 instantiations of these over the years, and right now, the
15 instantiation is relatively light in magnitude.

16 But in the past, you would have had two phenomena. The
17 first is that the click-through rate that we estimate would
18 change because the ad format is there. So you would expect a
19 different click-through rate.

20 And then within the beta term, there's a couple of
21 subcomponents within the quality term, some of which are
22 impression oriented. So because the ad is bigger, it's pushing
23 down other ads. It's pushing down organic results. We would
24 say there's a greater impression cost associated with that ad
25 because it's a larger size. And so that would be reflected with

1 a greater impression weight, all else equal.

2 And so because there's a greater impression weight, you
3 know, that may require then a higher bid or higher quality in
4 order for your overall aggregate score to be high.

5 THE COURT: Thank you.

6 BY MS. WASZMER:

7 Q. Okay. Dr. Juda, let me just pause a second to ask you a
8 follow-up on some of my government colleague's questions about
9 CPCs.

10 A. Okay.

11 Q. So in some of the questioning, I think the questions
12 suggested that CPCs are static over time.

13 In your experience at Google working on the search ad
14 auction, are CPCs static?

15 A. I don't believe so.

16 Q. Okay. How would you describe them?

17 A. As very dynamic.

18 Q. To the extent if CPCs are dynamic, how do advertisers know
19 what's going on with CPCs as they bid for ads?

20 A. So the system provides to advertisers a variety of reports
21 that provide real-time information on their cost per clicks. So
22 an advertiser can see things like what was my average cost per
23 click yesterday, what was my average cost per click yesterday
24 within the United States, what was my average cost per click
25 yesterday within the United States between the hours of 9:00 and

1 10:00 a.m.

2 And so we're continuously updating these stats in
3 real-time. And so if an advertiser is experiencing increases in
4 CPCs or decreases in CPCs in aggregate, they would see it within
5 their reporting.

6 Q. Okay. And just so the record is clear on reporting, I
7 think Mr. Dahlquist asked you about search query reports.

8 Do you remember that?

9 A. I remember there being a reference to it.

10 Q. Okay. And then I think you testified about impression
11 share reports; is that right?

12 A. I think it was an impression share metric rather than an
13 impression share report, but yes.

14 Q. Is the CPC reporting that you're now talking about
15 something different than those two types of reporting?

16 A. I would say yes. I would view CPC as a metric on which we
17 report. So it's not in a like one-off stand-alone report, but
18 it's pretty front and center in terms of one of the sort of
19 primary metrics that an advertiser may see when looking at their
20 reports.

21 Q. And, Dr. Juda, if an advertiser is monitoring CPCs and is
22 unhappy with what they're seeing, what options do they have, if
23 any?

24 A. There's probably three sort of buckets of response that
25 they could use to get their costs down. The first is they can

1 lower their bid where if an advertiser lowers their bid by a
2 sufficiently large amount their average CPCs will go down
3 because the average -- because the bid dictates the most that an
4 ad can be charged.

5 The second recourse available to an advertiser would be to
6 improve their quality. So as we've previously discussed, if an
7 advertiser improves their quality, all else equal, that will
8 likely do good things to their CPCs, or I guess in this
9 direction, good would be having them go down.

10 And then the third option, if an advertiser wants to reduce
11 their costs, is they could simply stop advertising on the
12 objectionable advertisement. They could turn off the keyword,
13 or they could simply stop advertising with us wholesale if they
14 wanted to see their costs go down.

15 Q. And in your experience, if advertisers choose your third
16 option, are there other platforms that they can go to to buy
17 ads?

18 A. I feel so.

19 Q. Is any part of your job day to day external contact with
20 other platforms?

21 A. No.

22 Q. Okay. Let's go back to ad launches for a minute, Dr. Juda.
23 In the course of -- could you explain to the Court, what's the
24 process for an ad launch within ads quality?

25 A. So I guess at a high level, Googlers come up with ideas for

1 how they think they may be able to improve the system along some
2 dimension. They will then either run simulations or very
3 low-traffic experiments as a basic sanity check to see if the
4 launch is behaving in a way that was anticipated when they
5 originally set out with the idea.

6 If things are looking good, they will then proceed to send
7 ever more traffic into the experiment, where usually when they
8 want to start receiving 10 percent of traffic or so, they will
9 typically send an e-mail out to a launch approvals mailing list
10 seeking permission to go up to 10 percent.

11 There's then usually a couple of hops before they go full
12 with at least a stop at 50 percent first, and if the metrics are
13 looking good and the team has good justifications for the launch
14 and, you know, the documentation seems to be in reasonable
15 shape, they are then allowed to proceed and launch fully.

16 Q. And let me just ask you about factors that ads quality
17 considers prior to a launch.

18 Do you model how advertisers might respond to the launch?

19 A. We can, especially if it's a launch where we might
20 anticipate that there would be an advertiser response.

21 Q. Okay. Does user blindness factor at all into the
22 consideration of an ad launch?

23 A. Absolutely.

24 Q. Okay. Can you explain to the Court how that might factor
25 into the consideration of an ad launch?

1 A. Sure. So as I believe I was mentioning earlier, RASTA will
2 tell us sort of an immediate near-term estimate of the revenue
3 of a launch, but a metric that we usually care about more is a
4 long-term sort of RPM estimate, and that long-term RPM estimate
5 consists of taking the short-term estimated impact, layering
6 onto it the user impact -- the user response, layering onto it
7 the advertiser response, and layering onto it the system
8 response.

9 So user notions of sightedness and blindness and those
10 equivalent notions from an advertiser perspective as well are
11 all estimated and baked into our estimate of what we think the
12 long-term creation -- value creation would be of a launch.

13 Q. Dr. Juda, we've talked a lot about CPC. Let me just ask
14 you a question about what it means.

15 Do you recall earlier in your testimony, I think upon
16 Mr. Dahlquist's questions, you said it could have different
17 meanings?

18 Let me just ask you about definitionally. In your view and
19 experience at Google, does CPC standing alone reflect advertiser
20 value?

21 A. Not one for one, no.

22 Q. Why?

23 A. So my belief -- well, this is probably not a belief.
24 Advertisers need to generate profit, else they will go out of
25 business. So therefore, it's important for advertiser value to

1 exceed advertiser cost.

2 The advertiser's bid is an expression of their maximum cost
3 per click, but in order for an advertiser to actually derive
4 profit, it likely behooves them to submit a bid that is less
5 than their actual expected value per click, because if you
6 submit a bid that is less than your expected value per click,
7 then your value per click will exceed your cost per click, and
8 then an advertiser will derive value.

9 So I would expect an advertiser's bid more often than not
10 to be a lower bound on the value that an advertiser is actually
11 anticipating to receive from a click.

12 Q. Thank you. And, Dr. Juda, I think over the course of
13 yesterday and today, Mr. Dahlquist asked you about knobs or
14 pricing knobs.

15 Do you remember that?

16 A. I do.

17 Q. In your experience with the ads quality team, are there,
18 and I'm going to put in quotes, pricing knobs that allow your
19 ads quality team to raise price unilaterally?

20 A. I don't believe so.

21 Q. Okay. Just a few more metrics questions, Dr. Juda.

22 Have you heard of something called the "search ads price
23 index"?

24 A. I think in passing.

25 Q. Okay. Is that something you've ever used in ads quality?

1 A. Use is probably too strong of a word. I think it's
2 something that we saw. I'm not sure that we ever really used it
3 in any sort of meaningful way.

4 Q. Do you know if it's updated as of today?

5 A. I have no idea if it's updated as of today. It's been
6 years since I've come across that at work.

7 Q. Okay. Now, let me pivot a little bit to rGSP.

8 Just for the record again, can you explain to the judge,
9 what is rGSP?

10 A. It stands for randomized generalized second-price auction.

11 Q. I'm going to show another demonstrative. Let's go to 013.

12 Dr. Juda, we have a new set of advertiser bidders here. We
13 have new names: Billie, Mona, and Vinny. And I'm showing an
14 LTV score just to be able to ask you questions about LTV scores
15 that would be close.

16 What is depicted here with regard to these advertisers?

17 A. So we appear to have three advertisers showing ads in
18 response to the search "moving van" where Billie has the highest
19 LTV score and so is the first ad being shown. Mona is the
20 second ad being shown, and Vinny is the third with the third
21 highest LTV.

22 Q. Is this a scenario in which rGSP might kick in?

23 A. It is.

24 Q. What, if any, problem is there with this particular
25 scenario in an ad auction?

1 A. So I think our viewpoint was that this allocation was
2 disproportionately positively benefiting Billie and
3 disproportionately negatively impacting Mona.

4 If you look at these LTV scores, the different is 0.1. So
5 that would be one-half of a 1 percent difference in LTV score.
6 But because Billie's ad is one-half of 1 percent higher, Billie
7 would be consistently appearing in the first position rather
8 than the second and so likely would be receiving perhaps 20 to
9 30 percent more clicks.

10 And the fact that Billie is receiving 20 to 30 percent more
11 clicks than Mona could be by being in position 1, even though their
12 difference in LTV scores is only one-half of 1 percent, feels
13 disproportionate.

14 Q. Okay. And, Dr. Juda, if you will pause for one minute, I'm
15 going to show you another exhibit.

16 Your Honor, for the record, I'm going to show Plaintiffs'
17 Exhibit UPX6058.

18 THE COURT: So in this hypothetical here, Billie has
19 bid \$4; LTV is 20. Mona has bid \$2; LTV is 19.9.

20 Roughly speaking, does that mean that Mona's ad quality and
21 predicted click-through rate and landing page are probably of
22 higher quality than Billie's?

23 In other words, those quality factors and quality variables
24 are making up for the difference in price?

25 THE WITNESS: In aggregate, yes. It may be that they

1 have the same pCTR but different PLQs or PCQs. But it would
2 seem like at least on a whole, you know, I would expect that,
3 yeah, at least one of those three components must be much higher
4 on Mona's part relative to Billie's part.

5 THE COURT: And so if -- maybe I'm jumping ahead here,
6 Counsel. But as I understand it, with RGPS -- sorry if I'm
7 getting it wrong.

8 THE WITNESS: All good.

9 THE COURT: Those two orders will flip?

10 THE WITNESS: That's correct, at least roughly half
11 the time.

12 THE COURT: Okay. And in that situation, Google would
13 receive less revenue than the other way around?

14 THE WITNESS: So it's all going to depend on the
15 particulars. Like on this particular occasion, you will notice
16 that Mona had a lower bid than Billie. So that might imply that
17 the actual CPC for Mona could be lower than what Billie's CPC
18 was.

19 So the clicks may be lower. How much revenue is generated
20 in the immediate term would be a function of the relative
21 click-through rates. So whether the changes in revenue are
22 immediate because there's click-through rate differences or
23 perhaps they're more long term, if it's coming through user
24 sightedness, which is why we thought it was beneficial to flip,
25 could vary a lot on the particulars.

1 THE COURT: So it's not necessarily that Google would
2 receive lower revenue; it just depends on, particularly over the
3 long term, what users do?

4 THE WITNESS: That's right. There would be movements
5 both upwards and downwards, and things would net out in a
6 particular spot and practice.

7 THE COURT: Okay. Thank you.

8 MS. WASZMER: And, Your Honor, just going back to
9 that, we are just going to show the effect of rGSP. We just
10 showed the swapping.

11 Our hot-seat guys need to get the benefit of their awesome
12 animation.

13 BY MS. WASZMER:

14 Q. Okay. Dr. Juda, I've just put in front of you Plaintiffs'
15 Exhibit 6058. In particular, I'm going to direct you to the
16 second page, number 4, and have you look at that.

17 And for the record, this is an exhibit with a title "about
18 ad position and ad rank."

19 A. Okay.

20 THE COURT: You mean page 0004?

21 MS. WASZMER: Sorry. It's number 4 on the second page
22 of the exhibit, Your Honor.

23 THE COURT: Oh, I see. Okay.

24 MS. WASZMER: Thank you.

25 BY MS. WASZMER:

1 Q. Dr. Juda, what is this document, if you know?

2 A. So this document appears to be an external help center page
3 describing the basics of how the ad auction works.

4 Q. And just directing you to number 4 on the second page,
5 there's a paragraph about the competitiveness of an auction.

6 What's being described here?

7 A. This appears to be a description of the rGSP launch.

8 Q. Okay. We can take that down. Thank you.

9 And, Your Honor, I believe this is already in evidence from
10 the plaintiffs' exhibits.

11 Okay. Dr. Juda, let me just ask you about another term
12 that has come up in the case, squashing. What's your
13 understanding of what squashing is?

14 A. So there's a couple of different ways in which one can
15 explain squashing. As we were talking about earlier, within the
16 academic literature, usually squashing refers to raising the
17 predicted click-through rate to an exponential factor.

18 (Alarm.)

19 THE COURT: I guess I was notified last of the
20 emergency.

21 BY MS. WASZMER:

22 Q. Dr. Juda, if you know, did the term "squashing" originate
23 within Google or somewhere else?

24 A. I believe it originated -- my exposure to it was within the
25 academic literature before it made its way to Google.

1 THE COURT: Sorry. Could you repeat the answer of
2 what you understand it to be? I was distracted.

3 THE WITNESS: Sure. So within the academic
4 literature, squashing usually refers to raising the predicted
5 click-through rate term within a bid times pCTR auction to an
6 exponent.

7 BY MS. WASZMER:

8 Q. And, Dr. Juda, why does Google use squashing, if you know?

9 A. So there was a combination of factors that led to its
10 introduction within Google.

11 Maybe starting with a high-level description, there are
12 some shortcomings with using predicted click-through rate as a
13 signal for quality. Some of those shortcomings can result in
14 entrenching specific advertisers at the expense of other
15 advertisers, which in general is not something that we
16 necessarily want to see.

17 And in tandem with that phenomena, there were some
18 predicted click-through rate launches that were happening back
19 in the day that were exasperating some of the negative
20 deficiencies of trying to use predictive click-through rate as a
21 quality signal.

22 Q. And let me just pause on predicted click-through rate.

23 I think Mr. Dahlquist asked you an example in which he
24 asked you about a 0.20 pCTR. Can you explain to the judge just
25 maybe using the running shoes example, what does that 0.20 mean?

1 A. So if a predicted click-through rate of 0.20 was used in a
2 running shoes query, that would imply that the system thinks
3 there's a one-out-of-five chance that a user is going to click
4 on the ad, or a 20 percent chance.

5 Q. I think you just described to the Court that the predicted
6 click-through rate may not be an indicator of quality.

7 Over time, has Google tried to improve the accuracy of
8 pCTR?

9 A. We have.

10 Q. And what have you done in that regard?

11 A. All sorts of launches over the years, ranging from
12 encouraging our models to think about new potential patterns
13 that may be useful for predicting click-through rate better to
14 wholesale re-architecting of our predicted click-through rate
15 system to try and use the latest and greatest machine learning
16 methods.

17 Q. And, Dr. Juda, from squashing, is the competitiveness of
18 the auction impacted?

19 A. I believe so, yes.

20 Q. And explain how it would be impacted.

21 A. So this is going to probably have to take a mathematical
22 analogy. Okay. Let's go for this.

23 Imagine that we are interviewing 61 baseball executives and
24 asking them for their preference between two minor league
25 players. Unbeknownst to me, these general managers may have a

1 bunch of scouts, and so they've been able to identify that one
2 of those players has a .300 batting average and one has a .250
3 batting average.

4 I don't yet know this, though. I'm just asking the general
5 managers who they may prefer, and it could be that 60 of them
6 tell me that they prefer the person that has a .300 batting
7 average and one out of the 60 is telling me that they prefer the
8 person with the .250 batting average.

9 These GMs sort of voting with their preference is roughly
10 what we see from a predicted click-through rate system. And so
11 the challenge there is we might infer with 60, you know, GMs
12 preferring one player and only one executive preferring the
13 second, perhaps the one player that's preferred is 60 times as
14 good from a quality perspective, because they got 60 yeses and
15 the other person only got one yes.

16 However, that's a really poor reflection of the true
17 quality of the two players. As I noted, there's only really a
18 20 percent difference between the two, at least when evaluating
19 them through their respective batting averages.

20 So this is, I think, the real shortcoming with predicted
21 click-through rate, is that we're not necessarily getting
22 feedback from users around the quality of each and every ad that
23 they're seeing. We're just seeing the ads on which users click.

24 And so it gives us a first-order preference, but it doesn't
25 really tell us how much from a quality perspective. So if one

1 reads too much into it, you could start to think that there's
2 massive disparities in quality when, in fact, there are none.

3 Q. Okay.

4 A. Yeah, I think I've probably got another example as well.

5 THE COURT: I might disagree with the 20 percent
6 difference between a .250 and a .300 hitter.

7 THE WITNESS: Well, one may value slugging percentage
8 more or something like that, and so that's why they chose to go
9 for it.

10 BY MS. WASZMER:

11 Q. Okay. Dr. Juda, I'm hoping to get you out before the
12 break, so let me move on.

13 Pivoting to a different topic, keyword matching, Dr. Juda,
14 has Google changed keyword matching over time?

15 A. Yes.

16 Q. Explain what you know about changes to keyword matching
17 over time.

18 A. In general, they've moved in a direction of trying to make
19 it easier for advertisers to match all of the searches that are
20 relevant to their products and terms without necessarily having
21 to go through the gymnastics of having to enumerate every single
22 variation.

23 So a simple example, there are an obscene number of ways
24 that one can attempt to spell Britney Spears. Truth be told,
25 I'm not actually sure of the correct spelling myself.

1 And so if one wanted to sell posters for Britney Spears,
2 back in the day, an advertiser may have actually had to have
3 tried to enumerate each and every misspelling of Britney Spears
4 if using exact keywords in order to match all of them.

5 In all likelihood, they would fail in doing so. And so
6 there would potentially be opportunities where that advertiser
7 is selling a product that users would want, but the match wasn't
8 being made simply because the advertiser wouldn't be able to
9 think through all the combinations.

10 So some of our innovations in the keyword space have been
11 to try and algorithmically determine when keywords and searches
12 mean the same thing, so that you only have to specify Britney
13 Spears once, correctly spelled or incorrectly spelled, and we
14 can actually have it match all the other Britney Spears
15 instantiations.

16 Q. Thank you, Dr. Juda. Let's put up demonstrative 015.

17 I think you were describing an example of needing to match
18 to all the different variations. What is depicted here?

19 A. So this appears to be an instance where JoAnn has provided
20 us with a keyword of "tennis shoes," and it seems to be matching
21 a user search of tennis shoes, where this appears to be a sort
22 of classic syntactic matching of keyword inquiry.

23 Q. Okay.

24 THE COURT: Sorry. Keywords, if you would explain to
25 me the relationship between the keywords and the bid. In other

1 words, is there a -- does an advertiser's price depend upon the
2 keywords, for example, or what prevents an advertiser from
3 identifying all possible keywords versus a more limited number
4 of keywords?

5 THE WITNESS: On some level, nothing, and some
6 advertisers do choose to provide us with what I consider to be
7 an obscene number of keywords. Advertisers have the option to
8 annotate keywords with bids. So you may say when my keyword
9 "tennis shoes" matches a search please submit a bid of 10 cents
10 to the auction.

11 The auction itself is indifferent about what the keyword
12 actually was that had the advertiser participate. What the
13 auction is really concerned about is just what is the ad copy,
14 what is the landing page, what was the advertiser's bid. How
15 the -- how the advertiser entered that auction in the first
16 place is handled by the upstream advertiser-facing tools.

17 THE COURT: I could see a situation in which an
18 advertiser would value a more specific keyword, a keyword that's
19 specific to their product at a higher value than something
20 that's a little bit more off.

21 Is that something an advertiser can do? It sounds like
22 they can.

23 THE WITNESS: Absolutely. You can imagine, for
24 example, an advertiser may want to have a \$1 bid on just the
25 keyword "luggage" but perhaps a \$100 bid on the keyword "Louis

1 Vuitton luggage," because if a user actually types in the full
2 "Louis Vuitton luggage," if there's going to be a sale, it will
3 likely have an expected value that's higher. Whereas, if you're
4 just advertising on the keyword "luggage," you could potentially
5 match a search like "cheap throw-away luggage," in which case
6 the expected value would probably be a lot less.

7 So advertisers are mindful of those dynamics and so will
8 submit potentially different bids that are higher and lower as a
9 function of the expected value of the traffic they might get
10 from a particular keyword.

11 THE COURT: Thank you.

12 Sorry, Ms. Waszmer.

13 MS. WASZMER: No. Thank you.

14 BY MS. WASZMER:

15 Q. Let's go to the next demonstrative.

16 And, Dr. Juda, just quickly, what is being shown here?

17 A. So this appears to be a representation of what happened
18 when we started to introduce more semantic matching into our
19 keywords in addition to syntactic matching.

20 So as before, it was only sort of a one-to-one match
21 between "tennis shoes" and "tennis shoes." After we started
22 introducing semantic matching, not only could that keyword match
23 the exact same query, but it could also match things like tennis
24 sneakers, shoes for tennis, and tennis shoes, all of which mean
25 the same thing.

1 Q. Okay. Thank you. We can take this down.

2 Dr. Juda, let me move on to a topic we haven't touched on
3 yet today, which is use of user data.

4 In ads quality launches, has Google been able to reduce the
5 amount of user data that it needs?

6 A. I believe so.

7 Q. And why -- what's the motivation for doing that?

8 A. So for something like our predicted click-through rate
9 system, the more data that it trains against, the greater the
10 computational resources that are required in order to just
11 perform its algorithmic functions and also the greater amount of
12 clock time that's required in order to experiment. Because if
13 you come up with like a new idea on a pattern that may make
14 sense, if you're having to process a lot more data, it just
15 takes then a lot more time to spin up that experiment and run
16 that experiment.

17 And so we've seen on a number of occasions that when we
18 reduce the amount of data that feeds into our machine learning
19 systems, we receive outcomes that are still reasonably good
20 enough for us to sort of perform our business but come at
21 machine resource wins, which is nice, and also allows the team
22 to experiment more both because they can experiment more
23 quickly, and because they can experiment more quickly, they can
24 experiment with more things over time.

25 And those innovations wins, you know, we believe

1 dramatically outpace whatever immaterial degradation there may
2 be in prediction accuracy.

3 Q. I'm going to briefly refer you back to UPX009. This was a
4 document Mr. Dahlquist showed you about Incognito. And I just
5 want to put up 470, which is the third page of the document.

6 I think Mr. Dahlquist read parts of this, but I would like
7 to have you look at the first bullet point, "if Incognito actual
8 adoption," and then the third bullet point under that that
9 begins with "individual user experiences would degrade."

10 Do you see that?

11 A. I do.

12 Q. Do you recall from the time that you were looking at this,
13 were you concerned about product degradation?

14 A. I think so.

15 Q. Okay. Do you recall -- do you recall what your thoughts
16 were at that time about the proposal and how it might impact the
17 product?

18 A. That the utility of the google.com result page would
19 degrade, which would reduce the value to users.

20 Q. And, Dr. Juda, when you look at proposals like this, are
21 there trade-offs that have to be made?

22 A. Certainly. It's very rare that you have a launch that
23 strictly improves every single dimension that we may want to
24 consider.

25 Q. Okay. You can put that down.

1 All right. Dr. Juda, let's go to the last demonstrative.
2 This is a paragraph from the Department of Justice's complaint,
3 and there's a line here that states, "Google has more power to
4 manipulate the quantity of ad inventory and auction dynamics in
5 ways that allow it to charge advertisers more than it could in a
6 competitive market."

7 Let me just take the part that you've been asked about
8 today. Is Google able to manipulate auction dynamics in ways
9 that allow it to charge advertisers more than it could in a
10 competitive market?

11 A. I don't believe so.

12 MS. WASZMER: Thank you, Your Honor. No further
13 questions.

14 THE COURT: If I can ask one more question.

15 You've described in terms of the rankings and how the ad
16 auction works. I'm sure it's far more complicated than any of
17 us could ever understand. But does any component or variable in
18 that ad auction consider pricing by the competition or where
19 other ads might be placed?

20 THE WITNESS: I don't believe directly. At times,
21 there's been questions of the form, how aware should our
22 predictions be of previous decisions that have been made.

23 So you can imagine, when predicting the click-through rate
24 of the advertiser in position 2, should we be aware of the
25 person who has already been allocated to position 1. Because it

1 could be that based on who is in position 1, the likelihood of
2 someone then clicking on position 2 could deviate.

3 I guess if I were to come up with an example, a user does a
4 search for "cola." If the only ad that we show is Pepsi, you
5 may expect a certain click-through rate, but it may be that if
6 you're showing both Coke and Pepsi and if the user in general
7 prefers Coke, perhaps that would cause the Pepsi click-through
8 rate to plummet from that user, not because the quality of the
9 Pepsi ad degraded between the two but just because they prefer
10 Coke and so they click on the Coke ad.

11 So I can't remember the full extent to which we bake those
12 things in today, but if those are present, and they may be right
13 now, then --

14 THE COURT: Sorry for interrupting. I may have been
15 unclear in my question. I was less about competition between
16 products than competition between other places where digital ads
17 can be placed.

18 THE WITNESS: Oh, okay. So could you please then ask
19 the question with that framework in mind.

20 THE COURT: So is there any variable in the algorithm
21 that takes into consideration the cost of advertising on other
22 digital platforms?

23 THE WITNESS: No. I don't think we would know with
24 enough confidence what that would be at the auction level even
25 if we wanted to do so, but no, I can't think of anything like

1 that.

2 THE COURT: Thank you.

3 MS. WASZMER: I have a follow-up question from the
4 Court's.

5 THE COURT: Sure.

6 BY MS. WASZMER:

7 Q. Dr. Juda, in the Court's hypothetical, I think the Court is
8 asking you if, let's say, a Facebook or a TikTok or an Amazon,
9 if advertisers go elsewhere -- let me ask you that.

10 If advertisers go elsewhere and there's fewer bidders in
11 the auction, is the auction impacted at all?

12 A. If an advertiser were to stop advertising with us,
13 regardless of where they would take their money, the auction
14 could be impacted because we have fewer -- we have one fewer
15 advertiser within it participating.

16 Q. And understanding that this is -- I'm oversimplifying the
17 question, what are the kinds of impacts it could have on the
18 auction if, for example, advertisers moved to other platforms?

19 A. So from a user perspective, I could imagine a degradation
20 in user quality, because we now have less information to
21 potentially present to a user that would be considered useful.
22 So that would potentially have some negative implications from a
23 user perspective.

24 Because there's negative user implications, that could
25 start to influence how much users search on Google over time,

1 which could then negatively impact our entire advertising
2 population, if users choose to use us less.

3 And then from a Google perspective, all else being equal, I
4 would expect a reduction in revenue if advertisers start leaving
5 us. So --

6 MS. WASZMER: Okay. Thank you. No further questions.

7 REDIRECT EXAMINATION

8 BY MR. DAHLQUIST:

9 Q. Dr. Juda, a couple of follow-up questions in response to
10 some questions you were asked from your counsel.

11 Sir, you're not aware of anyone at Google doing any
12 analysis of Bing's auction model; correct?

13 A. No one immediately comes to mind.

14 Q. You're also not aware of anyone at Google ever doing any
15 analysis of pricing of search ads at Bing; correct?

16 A. Nothing immediately comes to mind.

17 Q. Your counsel showed you a demonstrative, and if I could ask
18 for assistance from defense counsel's tech folks. We don't have
19 these demonstratives on our systems yet. But if we could put up
20 the demonstrative that you went through with your counsel.

21 First off, did you prepare these slides, or did your
22 counsel prepare them?

23 A. I did not prepare these slides.

24 Q. Okay. Thank you. And if I can ask, approximately how long
25 did you spend with your counsel preparing for your testimony

1 today? Not any substance. How long?

2 A. 20-ish hours, if I had to guess.

3 Q. If we could turn to slide DX1109. And this was a
4 demonstrative that your counsel asked you about that is
5 titled "Google ad auction."

6 Do you recall that?

7 A. I think so.

8 Q. And I would like to walk through this very quickly.

9 The first column is the "bid" or the "max CPC." That would
10 be submitted by the advertiser; correct?

11 A. Correct.

12 Q. The second column, "pCTR," that's a value that's calculated
13 and known within Google; correct?

14 A. It's calculated within Google. We do provide through the 1
15 through 10 quality score components some external
16 representations of it as well.

17 Q. And we're going to get to the 1 through 10 in a minute, but
18 the 1 through 10, that's provided to advertisers; correct?

19 A. Correct.

20 Q. But the 1 through 10 is not -- that quality score is not a
21 component of the LTV calculation; correct?

22 A. Correct.

23 Q. And this number here, the pCTR, low, high, medium, this is
24 a component of the LTV equation; correct?

25 A. Correct.

1 Q. And this pCTR component of the LTV equation is not provided
2 to advertisers; agreed?

3 A. Directly, I agree.

4 Q. The next column, "quality of ad copy," again, I think we
5 talked about earlier today that Google provides -- does an
6 estimate of the quality of an ad based on the LTV score;
7 correct?

8 A. Correct.

9 Q. And Google does not share with advertisers how it views the
10 quality of ad copy; correct?

11 A. I disagree, because the 1 through 10 quality score
12 subcomponent provides an aggregate perspective on how we sort of
13 perceive the ad quality to be.

14 Q. But we just said the 1 through 10 score is not a part of
15 the LTV equation; correct?

16 A. Correct, but the subcomponents that we provide to an
17 advertiser are informed by these values.

18 Q. Would you agree that the quality of ad copy here is a
19 representation of the PCQ score that is part of the LTV
20 equation?

21 A. Can you repeat the question, please?

22 Q. Certainly. The quality of an ad copy is a representation
23 of the PCQ score that is part of the LTV equation?

24 A. That's correct, which when aggregated informs the ad
25 relevance subcomponent that we provide to advertisers.

1 Q. The next column is a representation of the PLQ format --
2 let me strike the question.

3 The next column, "landing page experience," is a
4 representation of the PLQ that's part of the LTV equation;
5 agreed?

6 A. Correct.

7 Q. And the next column, "overall bid plus quality," that would
8 ultimately be the results or the output of the LTV equation;
9 agreed?

10 A. I think that's fair on this conceptual graphic.

11 Q. And the same with the score? It's a representation of what
12 the LTV equation might output; correct?

13 A. Correct.

14 Q. So in this whole chart, the only thing that the advertiser
15 knows is the first column, the bid? That's the part that they
16 submitted into google.com; agreed?

17 A. I don't think it's that clear, because as I was noting, you
18 know, the second, third, and fourth columns in this graphic are
19 aggregated and then provided to advertisers through the quality
20 score reporting.

21 Q. Through a quality score, a 1 through 10 score; right?

22 A. Not only the 1 through 10 score, but we also provide
23 average, above average, and below average indicators for each of
24 these three variables.

25 Q. And are those average/above average part of the LTV

1 equation?

2 A. They are not used in the LTV equation, but those values are
3 informed by the values that are.

4 Q. If we can proceed forward to slide 12 in the same
5 DXD11.012. This is another representation of the Google ad
6 auction, and just a couple of questions on this.

7 There's a quality threshold there at the bottom. Do you
8 see that line?

9 A. I do.

10 Q. Google sets that quality threshold; correct?

11 A. Correct.

12 Q. And here, you stated that Deb, I think we referred to her
13 as Deb, A, Deb is excluded from the auction because she doesn't
14 meet the quality threshold; agreed?

15 A. It was Alice, letter A rather than letter D.

16 Q. I apologize. Alice. If Alice -- Alice is excluded from
17 the ad auction here because she doesn't meet the quality
18 threshold; agreed?

19 A. Well, her score is negative 5. So her overall score
20 doesn't meet the threshold.

21 Q. And Alice could improve her score by increasing her bid and
22 re-enter the ad auction; agreed?

23 A. That's one of two options available to her, provided that
24 her quality isn't so low that we wouldn't permit her to enter
25 the auction regardless of her bid.

1 Q. But I think when we were talking about this, you gave an
2 example of a florist who was number 13,000 down on the bottom of
3 the list; right?

4 A. Uh-huh.

5 Q. And in order for that 13,000th florist to get above, they
6 could improve their quality or increase their bid to such a
7 dramatic amount, I think that was what you stated; correct?

8 A. I don't remember my exact words. That may be directionally
9 consistent with what I said.

10 Q. And then continuing on in this demonstrative, I think
11 DXD11.016, it's the keywords match types case.

12 And I think you said before, an advertiser could do a user
13 query of just "tennis shoes" and match with the tennis shoes;
14 correct?

15 A. Correct.

16 Q. And after, they can match with a whole variety of
17 permutations of tennis shoes; correct?

18 A. So the keyword would match to a whole permutation.

19 Q. Today, a user cannot opt out of these broad keyword
20 matches; correct?

21 A. That's incorrect.

22 Q. Today, can a user opt out of broad match?

23 A. So I think about it as an advertiser rather than a user.
24 And an advertiser has a concept called a negative keyword. So
25 by specifying a negative keyword, an advertiser could say

1 something of the form, I don't wish for my ad to show on the
2 search "shoes for tennis," and that would enable them not to
3 appear on that search term.

4 Q. Did it used to be that advertisers -- and you're right, I
5 used the word "user," and I apologize.

6 Isn't it correct that an advertiser used to be able to opt
7 out of a broader match for its ad, if it chose to?

8 A. I believe so.

9 Q. And today, it cannot? It is automatically entered into
10 auctions for a broader selection of keywords; agreed?

11 A. So I think that's too much of a generalization since the
12 negative keyword still exists. So I would say there used to be
13 multiple methods by which an advertiser could opt out of these
14 experiences, and now we have a smaller number of methods, but
15 there still exists means by which an advertiser can opt out in
16 effect.

17 Q. It makes it harder to opt out; agreed?

18 A. I can't say I've necessarily heard advertisers express to
19 me that they find negative keywords difficult. They're
20 presumably just as easy or challenging as the normal keywords
21 that they're using.

22 Q. And by Google allowing an ad to enter into more auctions,
23 either the specific keyword or variations keyword, Google
24 creates thicker auctions, more participants in an auction;
25 correct?

1 A. All else equal, that's probably true.

2 Q. I think we're done with that demonstrative. Thank you.

3 Dr. Juda, your counsel asked you a couple of questions.
4 She asked you, has search ad launches resulted in negative price
5 effects, and I believe you said yes.

6 Do you recall that testimony?

7 A. No. My recollection is that she had asked about negative
8 revenue ramifications rather than price ramifications.

9 Q. Okay. That's fine. Let's use revenue.

10 Have launches created negative revenue ramifications in
11 your time at Google?

12 A. Yes.

13 Q. And she also asked you if ad launches have created neutral
14 revenue ramifications in your time at Google.

15 A. And the answer to that would be yes as well.

16 Q. She didn't ask you, though, in your time at Google, have
17 you participated in ad launches that have created positive
18 revenue ramifications for Google?

19 A. I believe those exist as well.

20 Q. And I would like to ask you about some of those.

21 THE COURT: Does Google -- are there internal metrics,
22 internal statistics about that very issue, sort of proportion of
23 positive revenue launches to negative and neutral?

24 THE WITNESS: I can't think of a running tally. I
25 guess I have mental models of how many launches we're usually

1 like counting within any given quarter, making progress towards
2 our OKRs. So I may have some rough estimates of it, but I can't
3 think of like a definitive number.

4 THE COURT: Thank you.

5 BY MR. DAHLQUIST:

6 Q. I believe when talking with your counsel, she asked you,
7 does Google control prices, and I think you said no, we don't;
8 right?

9 Google prices and ranks ads through algorithms in a search
10 ads auction process; correct?

11 A. That sounds correct.

12 Q. And Google has used the search ad auction process to
13 increase prices or CPCs that it believed were unusually low;
14 correct?

15 A. So I wouldn't describe it as us increasing prices. I would
16 rather describe it as we've made changes to the auction where an
17 outcome of the auction has been that some CPCs have gone up and
18 down, which certainly would include some CPCs that have gone up
19 for some advertisers.

20 Q. And would you agree that you have participated in launches
21 at Google that have made the average CPC go up?

22 A. I believe that's fair, at least for a sufficiently large
23 aggregated definition of average. If you go to a lower level,
24 you probably have some going up, some going down, but on net,
25 the impact would be that the ups were greater than the downs.

1 Q. If I could ask Ms. Johnson to please put up UPX59.

2 And we looked at this document before, and your counsel
3 asked you a couple of questions about rGSP and specifically
4 format pricing.

5 If we go to the second page, the last full paragraph, and
6 this is the document that you commented on, and we looked at
7 your comment. I would like to ask you something right below
8 your comment, the last full paragraph, if we could blow that
9 out.

10 Your counsel asked you questions about format pricing, and
11 I believe you stated that format pricing was an effort that
12 Google implemented with, I think, no compensation to Google.

13 Do you recall that testimony?

14 A. I do.

15 Q. Google chose to sunset format pricing at some point in
16 20 -- before 2020; agreed?

17 A. I forget the timing when we started to lean out of it.

18 Q. Format pricing is no longer running at Google; correct?

19 A. I would have to double-check. I think the code may be
20 there, just operating at a very low level.

21 Q. And in the first line there, it states, "We are exploring
22 these mechanisms to replace format pricing with something as
23 powerful but which doesn't have the format opt-out incentives."

24 Do you see that statement?

25 A. I do.

1 Q. Format pricing, advertisers could opt out of format
2 pricing; agreed?

3 A. Sure. They can always choose to not provide us with the
4 format.

5 Q. And in replacement, Google instituted rGSP as a replacement
6 to format pricing; agreed?

7 A. I'm not so sure I consider it a straight one-for-one
8 substitution.

9 Q. rGSP is running on the Google ad auction today; correct?

10 A. I believe so, yes.

11 Q. Format pricing no longer is running; correct?

12 A. So as I noted earlier, it may still be present but
13 operating at a lower magnitude than it had in the past.

14 Q. And advertisers can't opt out of rGSP; correct?

15 A. I guess it's difficult for me to understand. Are you
16 asking can advertisers choose their own auction protocol on a
17 per-advertiser basis?

18 Q. No, I'm not asking that.

19 There is no literal viable way for an advertiser to not
20 participate in the rGSP component of a search ad auction?

21 A. I mean, they can choose not to participate in the auction,
22 and then they are choosing to not participate in an rGSP
23 auction.

24 Q. Fair. If they participate -- correct. If they don't
25 participate in the auction in any way, shape, or form, then

1 they're not a part of rGSP.

2 A. Correct.

3 Q. But if they enter the ad auction in any way, they're
4 subject to rGSP; agreed?

5 A. rGSP is how the auction works today, yes.

6 Q. And last topic, sir. Let's go back to a document, UPX467.

7 Your counsel asked you about RASTA and the 20 percent in
8 goals. Do you remember this document we talked about?

9 A. I do.

10 Q. And I want to ask you just about the summary point at the
11 top. We talked a little bit about this, but I failed to ask a
12 question that was enlightened by your counsel.

13 It states "historically." Do you see that word?

14 A. I do.

15 Q. Historically, your group, search ads quality, has hit its
16 20 percent RPM OKR; correct?

17 A. As per when this document was written, I believe that is
18 true.

19 Q. And I believe it was stated that historically meant as long
20 as you can remember; correct?

21 A. I believe that's right. I'm trying to recall. I think
22 there may have been some instances where we may have been in the
23 high teens. So I can't say definitively it's been every single
24 year. But I think we've generally done pretty good on OKR.

25 Q. This was an annual goal? Every year, it was a 20 percent

1 RPM goal; correct?

2 A. So again, I -- because RPM can mean different things, I
3 think there was this 20 percent like long-term RASTA RPM goal.
4 The extent to which it translates into the actual realization of
5 revenue per thousand searches at like the system level is not as
6 clear.

7 Q. But as long as you can remember in your time at Google
8 running the search ads quality team, you have achieved a
9 20 percent revenue per thousand OKR; correct?

10 A. As per when this document was written, I believe it was
11 generally the case, again with perhaps one exception, but I can
12 tell you that since this document was written, this OKR
13 magnitude has changed, and it's not as high as 20 percent these
14 days.

15 MR. DAHLQUIST: Thank you.

16 No further questions, Your Honor.

17 THE COURT: All right. Dr. Juda, thank you very much
18 for your time and testimony, sir.

19 THE WITNESS: Thank you. Have a good day.

20 THE COURT: And safe travels home.

21 THE WITNESS: Thank you.

22 THE COURT: All right. So why don't we take our
23 afternoon break. It's a little after 3:10. So why don't we
24 resume at 3:30. Thank you, all.

25 (Recess taken from 3:12 p.m. to 3:34 p.m.)

1 (Call to order of the court.)

2 THE COURT: All right. Mr. Cavanaugh, do you have
3 your next witness?

4 MR. CAVANAUGH: Yes, Your Honor. The plaintiff states
5 call Ryan Krueger.

6 THE COURT: Counsel, I want to give you a heads-up.
7 At the end of the day, I'm going to provide sort of general
8 decisions on the redactions that were submitted and just provide
9 an explanation of what's being redacted and what isn't. I've
10 invited counsel for Apple and DuckDuckGo to participate via
11 Zoom, and we will have them on at 5:00. So just a heads-up.

12 RYAN KRUEGER, WITNESS FOR THE PLAINTIFFS, SWORN

13 THE COURT: Mr. Krueger, welcome.

14 DIRECT EXAMINATION

15 BY MR. CAVANAUGH:

16 Q. Good afternoon, Mr. Krueger. We haven't met before. My
17 name is Bill Cavanaugh, counsel for Colorado and Nebraska. As a
18 matter of fact, you haven't met anyone on this side of the room,
19 because you were fortunate enough not to have to give a
20 deposition in this matter.

21 If at any point you don't understand one of my questions or
22 my nasally Long Island accent makes it hard to understand, just
23 let me know. Okay?

24 A. Okay.

25 Q. Mr. Krueger, you are currently employed by Google?

1 A. That's right.

2 Q. And you have to keep -- like I have to, you have to keep
3 your voice up as best you can.

4 A. Sounds good. I'll sit a little closer.

5 Q. You've worked at Google for just over six years, from
6 August 2017 to the present?

7 A. Correct.

8 Q. For your entire six years at Google, you've worked on
9 various aspects of the SA360 product?

10 A. Correct.

11 Q. And your current position at Google is you're the product
12 manager for Google's Search Ads 360 smart bidding, performance,
13 and planning?

14 A. That's correct.

15 Q. All right. You've been in that job for about two years?

16 A. I started this current role, the product manager, in
17 December of 2021.

18 THE COURT: I'm sorry. Could you state the title
19 again, please? Product manager for?

20 THE WITNESS: Search Ads 360 bidding and planning
21 tools.

22 THE COURT: Thank you.

23 THE WITNESS: I think there was another one that you
24 mentioned.

25 BY MR. CAVANAUGH:

1 Q. And performance?

2 A. Bidding and performance are closely related, yeah.

3 Q. And in your role as product manager, you're involved with
4 the integration of Google search ads, auction-time bidding into
5 Search Ads 360?

6 A. It's currently integrated. I was not involved in the --
7 sorry. I was not the product manager involved when it was
8 initially integrated, but I oversee the current implementation.

9 Q. And prior to serving as product manager, you were global
10 product lead for SA360?

11 A. Correct.

12 Q. All right. And in that role, you focused on marketing and
13 adoption of SA360 features and functionality?

14 A. Correct.

15 Q. And you held that role for about three years, from January
16 2019 to December 2021?

17 A. Correct.

18 Q. And prior to serving as global product lead, you were a
19 technology specialist at Google?

20 A. Technical specialist, correct.

21 Q. Okay. And there, you also worked on the SA360 platform?

22 A. Correct.

23 Q. All right. And you served in that job from when you
24 started at Google in August of 2017 to January 2019?

25 A. Correct.

1 Q. All right. Now, Google had introduced the auction-time
2 bidding feature for Google Ads in roughly 2016?

3 A. I'm not exactly sure of the initial timing. I know it went
4 through several iterations and phases, but that seems roughly
5 around the right time frame.

6 Q. Certainly, by the time you joined Google in 2017, the
7 auction-time bidding feature was in Google Ads; correct?

8 A. That's my understanding.

9 Q. Okay. And in September 2019, Google integrated the
10 auction-time bidding feature in Google Ads into SA360?

11 A. That sounds about the right timing, yes.

12 Q. Okay. And what I mean by "integrated" is that an
13 advertiser using SA360 could avail themselves of the
14 auction-time bidding feature in Google Ads; correct?

15 A. I'm sorry. Can you repeat that?

16 Q. Sure. What I mean -- when we use the term "integrated
17 into," what that means is that an advertiser using SA360 could
18 avail themselves of the auction-time bidding feature of Google
19 Ads, the native tool?

20 A. Yes, and specifically, our integration uses our bidding
21 technology on top of it. Also, it's one of the features that we
22 would be implementing. So it's not just using the auction-time
23 bidding, but we have a bidder that sits on top of it.

24 THE COURT: I'm sorry. That happened September 2019,
25 I thought I heard you say?

1 THE WITNESS: I'm not sure of the exact timing.

2 MR. CAVANAUGH: Yes, that is.

3 THE COURT: Thank you.

4 BY MR. CAVANAUGH:

5 Q. When Google announced that it had integrated the
6 auction-time bidding feature in Google Ads into SA360, Microsoft
7 made a similar request as to the auction-time bidding feature in
8 Microsoft Ads; right?

9 A. Sorry. You're referring around the September time period?

10 Q. Yes.

11 A. So I believe around that time period, they started asking
12 questions about like how does this integration work. They
13 wanted to learn more about the Search Ads 360 integration with
14 Google Ads. And then I'm not sure of the exact timing, but they
15 did mention that they had an auction-time bidding feature as
16 well.

17 Q. And they wanted Google to work with them to put -- to make
18 that feature available through SA360; correct?

19 A. Again, I'm not -- I can't remember the specific timing of
20 when they officially requested it, but yes, they made it known
21 that there is a -- along with many other features, that they
22 wanted that in our platform.

23 Q. Okay. So let's start with the book I gave you. Those are
24 exhibits I will be referring to. I have them in numerical
25 order, and the first is PSX645, if you could turn to that.

1 Your Honor, this is already in evidence.

2 And if we could, this is an e-mail from you at the top of
3 the e-mail chain to a number of your colleagues in the SA360
4 product team?

5 A. That's right.

6 Q. And this is October of -- October 16, 2019, shortly after
7 Google had announced the integration of its auction-time bidding
8 feature into SA360; correct?

9 A. Again, I can't recall the specific time, but yes, this is
10 October of 2019, yep.

11 Q. And if we could turn to the second page, which has Bates
12 number 537, this is an e-mail to you from Jim La Force at
13 Microsoft.

14 Do you see that?

15 A. I do.

16 Q. All right. And Mr. La Force was an account executive for
17 advertising at Microsoft?

18 A. Yeah, he was someone I discussed with on a routine basis.

19 Q. All right. So you would talk to Mr. La Force routinely
20 during this time period?

21 A. We would at least touch base at least, I think, once a
22 month or once a quarter, but it was fairly routine, yes.

23 Q. All right. And in his e-mail, Mr. La Force writes, "Our
24 side is currently putting together a one-pager Microsoft
25 scope/spec POV around customer floodlight conversions

1 integration to Microsoft providing signals for tuning our
2 auction-time bidding."

3 Do you see that?

4 A. Yes, I do.

5 Q. All right. And so you understood that at this point
6 Microsoft was proposing to test for floodlight conversion
7 integration with Microsoft Ads in SA360; right?

8 A. Not exactly. So this specific proposal was taking Search
9 Ads 360 floodlight data, customer-owned data on their behalf
10 with their consent, sending that to Microsoft for use in the
11 Microsoft platform itself.

12 So this is not -- the test was not in SA360. This is in
13 Microsoft with the floodlight data. So I just wanted to make
14 that distinction.

15 Q. Okay. And so the point would be the data that comes into
16 SA360, the conversion data that comes into SA360 would then go
17 to Microsoft so that an advertiser seeking to -- through SA360
18 to go into an auction to put an ad on Bing, they would be able
19 to avail themselves of the conversion data and of the Microsoft
20 Ads auction-time bidding feature?

21 A. Yes. Again, I just want to make sure the distinction there
22 was not a -- we weren't building a feature in our product. I
23 mentioned earlier, we have a bidder that sits on top of it. So
24 it's not the full, let's say, Microsoft auction-time bidding
25 integration. It was us taking the data from the customer,

1 giving it to Microsoft for use in the engine itself.

2 I just wanted to make sure that was clear.

3 THE COURT: In other words, in Microsoft's own
4 auction-time bidding?

5 THE WITNESS: Correct. We weren't building anything
6 into our platform. We were just taking the data out with the
7 customers. At the time, the plan was to bring it into Microsoft
8 itself.

9 But that is different than the full auction-time bidding
10 integration that would be required for -- in our platform,
11 because again we have our own bidder that's sits on top that
12 makes decisions that helps inform what targets and budgets that
13 Microsoft would be optimizing towards.

14 So this is just the, let's say, data piece of it that we
15 would be giving to Microsoft. And the purpose was, you know, as
16 a first step even to building this feature in our platform, we
17 need to understand how do we get the data into Microsoft, what
18 are their capabilities, how does it respond to the data, what
19 happens during. There's a number of things. Let's say the
20 first step is like the data into Microsoft.

21 So that was the intention of this test.

22 THE COURT: I'm sorry. One more.

23 MR. CAVANAUGH: Sure.

24 THE COURT: Just a clarification. Floodlight
25 conversion or floodlight data, can you tell me what that means?

1 THE WITNESS: Yeah. So as a part of Google marketing
2 platform in which we sit in as Search Ads 360, there's a
3 measurement tool called "floodlight." If you heard of Google
4 Analytics, it's another tool similar to that where it measures
5 click-based activity on the web for media spend and can say
6 these clicks are tied to these website actions, like say a
7 purchase on a retailer's site.

8 So it basically says all right, a user clicked these ads,
9 and then it -- it'll say -- the retailer in this example would
10 fire off a tag on their website and say all right, well, I got a
11 \$1,000 order, and our system would attribute that order back to
12 digital media.

13 So that's how bidding works in that sense. It uses -- in
14 this case, our customers either use floodlight data or other
15 imported data or Google Analytics.

16 THE COURT: I'm sorry, Mr. Cavanaugh.

17 So the floodlight data is a combination of the clicking by
18 the user, but then also the feedback loop of what the user did
19 at the advertiser's website up to and including actual
20 conversion, that is, purchase of a product?

21 THE WITNESS: Yeah, so it's connecting -- so the
22 floodlight is the way to connect the actual clicks from the ads
23 to the advertiser's website activity, and the advertiser defines
24 what that activity is. Sometimes, it's like an add to cart.
25 Sometimes it's a purchase. Nonretailers, they might -- a car

1 dealership has like reserve a car or whatever it is on their
2 sites.

3 So that is the data that is the machine learning of
4 bidding. It uses that data to be able to say well, these
5 keywords are good for the customer, these are not, and that's
6 how it determines how it spends the revenue.

7 So we were giving -- our customers in our platform own that
8 data. It's not ours. We use it on their behalf. And in this
9 case, the test would have been to request permission on their
10 behalf to send it to Microsoft for a purpose of a auction-time
11 bidding test in Microsoft.

12 So there was no feature development happening on the Search
13 Ads 360 side for this.

14 THE COURT: So the customer information is what
15 Microsoft was proposing would be sent to it --

16 THE WITNESS: Correct.

17 THE COURT: -- so that it could test its auction-time
18 bidding for integration to SA360?

19 THE WITNESS: This would have been the first step in a
20 long evolution to get into our platform, but if Microsoft didn't
21 have the ability, which I think there were certain features that
22 they didn't have that we would need, we would have to request
23 that they build it so the data could actually get in.

24 So it was both a technical feasibility and general
25 understanding of like how it uses information, how does it

1 behave under various stress environments like outages happen and
2 things like this.

3 So there's a pretty wide range of things that happen with
4 the data.

5 THE COURT: Thank you.

6 BY MR. CAVANAUGH:

7 Q. So this was the first step before what you called a full
8 auction-time bidding integration into SA360?

9 A. This would be one of many different things we would have to
10 understand and test to build the full, what I would call,
11 auction-time bidding feature within our bidding systems.

12 Q. And I think you indicated for the judge, but let's just
13 make sure it's clear on the record, what this conversion data
14 is.

15 A user clicks on an ad and then takes the -- takes the next
16 step, making a purchase or providing information. That's the
17 conversion data; right?

18 A. That's correct. And it's typically floodlight, as you had
19 mentioned, but there are other sources as well that are platform
20 integrates with.

21 Q. And advertisers have to provide that information in order
22 for auction-time bidding to really work; right?

23 A. It doesn't have to be floodlight. Engines themselves have
24 their own tracking measurement tools. So Google Ads, for
25 example, they have Google Ads conversion tracking, they call it.

1 I mentioned Google Analytics. I think there's a free and a paid
2 version. And then Microsoft has their own tracking mechanism as
3 well that customers can use.

4 Q. But the conversion information is necessary for
5 auction-time bidding to really work?

6 A. Yeah, conversion-based bidding is how auction-time bidding
7 is powered, that's correct.

8 Q. And Google routinely seeks consent from its advertisers to
9 utilize this information, whether it's in SA360 or whether it's
10 in the Google native tool; correct?

11 A. I can't speak to Google native tool. I don't work on that
12 platform. But to use Google Ads auction-time bidding with
13 Search Ads 360 data, users would have to consent for SA360 to
14 share that information to the publisher, that's right.

15 Q. And you don't know any reason why it wouldn't be the same
16 on the native tool, in terms of seeking consent from an
17 advertiser?

18 A. I can't speak to how -- Google Ads policies. I know that
19 the difference between Search Ads 360 and Google Ads from a data
20 is customers have a contract directly with us when they come
21 onto our platform. And in those -- my understanding is in those
22 agreements there is data policies around like what we can and
23 can't do.

24 So there's -- we can't just give this out to anybody. This
25 is their data. And they have to explicitly consent in the

1 product with -- there's some legal terms in there about what it
2 means, but they have to explicitly consent to give that data
3 outside our product.

4 So we have very -- and again, I can't speak to how Google
5 Ads does it. I'm sure there's something when you sign up that
6 you agree to, but ours is actually contractually obligated to
7 make sure we don't give that in any way that the user didn't
8 intend.

9 Q. Okay. So you believe consent is obtained; you just don't
10 know the mechanism by which that's done on the native tool side?

11 A. Yeah, I don't want to speculate on Google Ads. I've never
12 worked in there.

13 Q. I understand.

14 A. Yeah.

15 Q. So in Exhibit 645, Mr. La Force had said, "our plan is to
16 send you one," and then if you turn to the first page of 645,
17 you see on October 16, he sent you the one-pager; is that
18 correct?

19 A. That's correct.

20 Q. And you had told him your team will work as quickly as we
21 can to review the POV plan to provide early next week, and you
22 sent that on October 11th? On the first page, second e-mail
23 down.

24 A. Yes, I see that. That was before they -- yeah,
25 October 11th, and he sent it on the 16th, that's right.

1 Q. Okay. Let's turn to 646, which I believe --

2 A. And just to clarify, at the top, I did send it over to the
3 team. I think it was the last piece of that.

4 Q. Right.

5 A. So you said 6 -- what's the next one?

6 Q. I'm glad you pointed that out. So when you send it on to
7 the team, you say, "For your information, Microsoft conversion
8 sharing integration/testing proposal."

9 That's how you envisioned it?

10 A. Yeah, so conversion sharing integration to Microsoft,
11 that's right.

12 Q. If you could turn to 646.

13 Your Honor, this is not in evidence. We would move for its
14 admission.

15 MR. MAURER: No objection, Your Honor.

16 THE COURT: 646 will be admitted.

17 (Exhibit PSX646 received into evidence.)

18 BY MR. CAVANAUGH:

19 Q. Mr. Krueger, this is the -- I believe this is the one-pager
20 that was sent to you. It's actually more than one page. It's
21 actually three pages. But you will see the Bates numbers, it
22 follows immediately, the Bates page for the last Bates page in
23 645.

24 Did you review the -- what Microsoft sent you on
25 October 16th?

1 A. I can't recall if I reviewed it on that day. I mean, this
2 is a familiar doc. I believe I might have been going out of
3 office shortly after this. So I don't remember all the details
4 of this. But I am familiar that this does look like the
5 document they shared.

6 Q. Okay. I'm going to ask you some questions about it.
7 Microsoft has requested that this document be treated as
8 confidential.

9 Your Honor, I think I can work around it, but I will let
10 you know if I face any challenges.

11 Now, if you look at the first page of the document, the
12 first sentence from Mr. La Force, I will ask you if you agree
13 with the statements in that first sentence.

14 A. You're looking at "online conversion tracking," just the
15 first sentence?

16 Q. Yes.

17 A. That would be correct. People use offline tracking as
18 well, but online tracking is a primary way for digital
19 advertising for tracking performance, that's right.

20 Q. Okay. I would ask you to look at the fourth paragraph that
21 starts -- strike that.

22 Now, in the fourth paragraph, starting with "in order to
23 help," I would ask if you could read that and tell me if you
24 agree with the statements in that paragraph.

25 A. Well, I didn't read the part before it, so I'm not sure

1 what the two needs are. But for the second part, "This document
2 proposes an approach where advertisers can choose to share their
3 conversions tracked by Search Ads 360 floodlight tag with
4 Microsoft Advertising," I would agree with that.

5 Q. Okay. Do you agree with the next sentence?

6 A. I -- sorry. Let me read it.

7 "This type of conversion sharing will also be a
8 prerequisite for further integration such as auction-time
9 bidding, which is important for Microsoft Ads where advertisers
10 can leverage both through Search Ads 360 and Microsoft worlds
11 and be in parity with Google Ads so that advertisers can
12 evaluate performance under similar conditions."

13 Q. Did you understand that that was Microsoft's objective
14 here?

15 A. Let me just parse through it real quick. Sorry. It's a
16 long sentence.

17 Q. That's okay.

18 A. So maybe I will just take it in pieces.

19 "This type of conversion sharing will be a prerequisite for
20 future integrations such as auction-time bidding." I would
21 agree that this is a first step in that direction, that's right.
22 Though again, this test isn't in our platform, but we -- at the
23 time we understood that that was a first step.

24 "Which is important for Microsoft so advertisers can
25 leverage best of both worlds of 360 and Microsoft." If this is

1 referring to the future, then yes, our bidding would be working
2 with Microsoft's bidding system on top of it.

3 Q. And you understood from Microsoft's perspective that they
4 considered this important?

5 A. I can't recall specifics at the time of where it was in
6 their priorities list, but I know that this was a feature they
7 asked for.

8 Q. Well, they use the term "especially important" here, don't
9 they?

10 A. They do in this statement, that's right.

11 Q. Okay. So let me ask you to turn to --

12 A. Can I finish? I just want to get the last part, because
13 you asked me for the full sentence.

14 "Bring parity with Google Ads so that advertisers can
15 evaluate performance under similar conditions." I think parity
16 with Google Ads, I think, is maybe the only contentious part,
17 because it's -- I believe at this time that Google Ads and
18 Microsoft didn't have full parity with -- bidding has a lot of
19 different capabilities. Some vary -- the types themselves may
20 be similar, but Google Ads had other features that layer on top
21 that I don't believe Microsoft had.

22 Q. But at least as you understood that as to auction-time
23 bidding, Microsoft was seeking parity?

24 A. I guess, again, auction-time bidding is a very like broad
25 word. There's a lot there. But I would say overall, I'm not

1 disagreeing. It's just, Microsoft didn't have all the features
2 that Google Ads had at that time. And I'm not sure of the
3 current state, but at the time they didn't have all the same
4 features. And I think even in some of the replies back, I noted
5 where some of the gaps were that we needed Microsoft to invest
6 in further --

7 Q. Now let's go down to the bottom of the page. It notes,
8 "Floodlight conversion sharing," and then there's a one and a
9 two.

10 Based on reading this, did you understand that Microsoft
11 was going to seek advertiser consent to the use of conversion
12 data?

13 A. So this is saying Google has parity. "Advertiser
14 experience in SA360 is identical or at least largely similar to
15 sharing conversion data with Google Ads so as to minimize any
16 friction." This wouldn't be in the initial proposal, but I
17 think that was a long-term goal of integrating.

18 Q. My question went to securing advertiser consent.

19 A. Oh, I'm sorry. The second one?

20 Q. Did you understand that Microsoft was proposing that
21 consent would be secured from advertisers?

22 A. As a part of the proposal, yes.

23 Q. If we could turn to "test objectives."

24 A. Okay.

25 Q. If you could just read those to yourself, do you agree with

1 the test objectives that Microsoft laid out here?

2 A. I do agree.

3 I'm sorry. I said I do agree.

4 Q. I didn't hear you. Sorry about that.

5 A. No, you're fine.

6 Q. Underneath it, the next line down is "bidding test
7 hypothesis."

8 Do you agree with the hypothesis that this test was seeking
9 to develop?

10 A. Yeah, I think with this test, my understanding was at least
11 from our side, the main goal was to get the data into Microsoft
12 to understand where the limitations may be or not be, as well as
13 again stress test some of the scenarios that we, you know, have
14 learned in the past of these type of integrations.

15 And then the -- yeah, we just overall wanted to see how
16 Microsoft bidding behaved with this data, that's correct.

17 Q. Okay. Underneath that, there's various steps to be taken
18 by different participants.

19 Am I correct that this test would have involved input from
20 Microsoft, input from Google, and advertisers?

21 A. Correct. It was -- because it was a fairly manual process
22 to get this set up, it would require everyone's input.

23 Q. Okay. If you could turn to PSX765. If you could turn to
24 the third page of the document, Bates 217.

25 A. Yep.

1 Q. You will see the e-mail is the October 16, 2019, e-mail
2 from Mr. La Force sending you the one-pager, and then the e-mail
3 chain continues after that; is that correct?

4 A. It does.

5 Q. Okay. You told Mr. La Force you would send it to the team
6 for review. And then on November 11, you send to the Microsoft
7 team, "Thanks for your patience as our product team reviewed the
8 details you shared. Overall, the Search Ads 360 team is
9 generally aligned with the approach outlined to validate
10 Microsoft auction-time bidding performance versus Search Ads 360
11 intraday bidding."

12 A. That's right; that's what it says, yeah.

13 Q. All right. So you understood at that point that this was
14 the purpose of that test; correct?

15 A. Yeah, I think I answered it a couple of different ways
16 before. Yeah, we were trying to get our data into Microsoft and
17 have advertisers involved with their consent and make sure, you
18 know -- to understand the feasibility of that and run a test for
19 those customers.

20 Q. All right. And if you look under "conversion import," they
21 note that this will be done with advertiser consent; correct?

22 A. That's correct.

23 Q. And when you say the team is -- the team is generally
24 aligned, aligned is corporate speak for agreed?

25 A. The team understood the proposal and agreed that the

1 approach was -- didn't have any issues with the approach.

2 Q. Okay.

3 A. I'm sorry. I should clarify.

4 There was another piece in here where we did call out some
5 inquiries. I mentioned we had some questions back. So overall,
6 the approach was fine. There was some detailed questions after,
7 and we did have some concerns around what we called the
8 fractional conversions or fraction attribution.

9 So we wanted to -- so there were some -- but yeah, overall,
10 the approach was fine from the team.

11 Q. Okay. And at the bottom of your e-mail, you state, "On
12 behalf of the Search Ads 360 team, we are looking forward to
13 getting this test off the ground."

14 A. That's right.

15 Q. And that was an accurate statement of your views on that
16 day; correct?

17 A. That would be right.

18 Q. If you could turn to -- let me just make sure. Your Honor,
19 765 is in evidence already.

20 If we could turn to PSX668. This has some partial
21 redactions, which we've demonstrated -- which we've put on the
22 screen, are reflected on the screen.

23 This is an e-mail between you and Mr. La Force. I think
24 you're one of the -- yes, you're one of the recipients of
25 Mr. La Force's e-mail on Friday, November 22nd; correct?

1 A. Yes, I was on that e-mail.

2 Q. All right. So if you could turn to the second page to
3 Mr. La Force's e-mail. You had had a meeting with them the week
4 before? If you look in the first sentence of his e-mail, "Thank
5 you for hosting us last week to review H1 2020 road map."

6 A. Yeah, we would hold sometimes quarterly, sometimes every
7 six-month sessions with them to discuss road map. Sorry. Road
8 map was every six months, but we would have quarterly check-ins.
9 So this would have been most likely one of those check-ins,
10 that's right.

11 Q. And the road map is a description of work that's going to
12 be undertaken in a given period, referring to the first half of
13 2020?

14 A. So road map is what we share externally to partners such as
15 Google or Microsoft or other engines we support, as well as our
16 customers, to say this is work that we would be working on or
17 actually launching during that six-month period. With software
18 development, it's hard to predict. But we say we're working on
19 these features.

20 They are subject to change as different priorities come in,
21 things like that. But we largely try to not change those,
22 that's correct.

23 Q. Mr. La Force provided you with some additional information
24 regarding features that were not supported for Microsoft Ads
25 that were supported for Google Ads; correct?

1 A. Yeah, I think that's the long list there. He sent a bunch
2 of items comparing the support for Google versus Microsoft in
3 our platform.

4 Q. So before we get down to his list, he states in that
5 paragraph that begins, "In addition, as discussed at the
6 meeting, providing you with a larger list of features that we
7 understand SA360 supports for Google Ads but not for Microsoft
8 Advertising."

9 Then he goes on to note, "Out of the 54 features listed, 27
10 are supported for Microsoft (50 percent)."

11 Do you recall him raising that issue at the meeting?

12 A. I don't recall at the meeting, but I remember him sending
13 this list, and I did take a cursory review. At the time, I
14 didn't have remit over all of them, but I remember the team
15 started looking at it. There were some -- I would say the
16 categories, I think 75, 80 percent might have been right. There
17 were some things that we marked up that were not right. But I
18 would say it was directionally accurate.

19 Q. If we look under "action items," the first item he
20 identifies is Microsoft Ads and SA360. And then underneath
21 that, there's a date of 11/21. "Ryan and Jim developed a draft
22 approach including initial opt-in messaging, work streams, and
23 owners."

24 That "Ryan" is referring to you?

25 A. That's right.

1 Q. All right. So at this point, you had actually drafted an
2 approach that you were then going to circulate among your
3 respective teams in order to finalize?

4 A. Well, I think that he was noting the -- oh, "developed a
5 draft approach." Yeah, I remember we had messaging, because
6 again we had to get consent from users. So I think we were
7 working on the messaging of how it would be communicated with
8 customers. But we did not begin circulating that at that time.

9 Q. Okay. And under the -- going down in this e-mail, "larger
10 feature parity list," what they've done here is they've
11 identified "yes" if the feature has been adopted and "no" where
12 it has not.

13 Is that how you understood this when you read it?

14 A. I think by "adopt," you mean it's available to our
15 customers on our platform?

16 Q. Yes.

17 A. That's right.

18 Q. And the ones that have been blackened, actually in red if
19 we had this in color, you understood that Mr. La Force was
20 saying this is our prioritized list; correct?

21 A. I'm not sure about that.

22 Q. If you look up in the paragraph that begins "in addition."

23 A. Okay. Yes, I can see he wrote that in the e-mail, that's
24 right.

25 Q. And among the items that are in red as prioritized items

1 are auction-time bidding and conversion sharing; correct?

2 A. There's a few others, but yes, those are on that list,
3 that's right.

4 Q. Okay. Now, when Google introduced the integration of the
5 auction-time bidding feature into SA360 in September 2019,
6 Google promoted the fact that advertisers were benefiting from
7 better conversions at the same or better return on investment;
8 correct?

9 A. You're talking about the Google Ads auction-time bidding?

10 Q. Yes.

11 A. So Google Ads has studies that they promote about the
12 uplift of their features. So yes, that was something that was
13 communicated to our customers.

14 They're not our claims. We don't -- we didn't run studies
15 ourselves on our uplift with our bidder. But it was Google Ads
16 claims this is the uplift, that's right.

17 Q. But Google made that announcement in connection with
18 promoting the integration into SA360; correct?

19 A. The study is independent of Search Ads 360. So I believe
20 in our narratives we would explicitly call out this is the
21 Google Ads claim to. We don't lay claim to that.

22 Q. Why don't you look at PSX909.

23 A. Sure. I'm there.

24 Q. This is a blog that Google put out on September 18, 2019;
25 correct?

1 A. That looks right.

2 Q. And the heading is "Google Ads auction-time bidding comes
3 to Search Ads 360"; correct?

4 A. That's right.

5 Q. All right. And if we look at the first paragraph on this
6 page, it says, "Smart bidding in Google Ads uses machine
7 learning to set bids at auction time by factoring in a wide
8 range of signals that help predict performance. Now you can
9 take advantage of Google Ads auction-time bidding in your Search
10 Ads 360 bid strategy."

11 A. That's right.

12 Q. You then go on to say, "By activating auction-time bidding,
13 you can enhance your performance when bidding on Google Search
14 while still maintaining your cross-channel bidding strategy
15 powered by Search Ads 360."

16 A. That's right.

17 Q. So Google is linking the two together; correct?

18 A. Sorry. Are you saying -- are you asking if the features
19 are linked?

20 Q. No. In your promotion to advertisers, you were telling
21 them that one of the advantages of using SA360 was that they now
22 would have access to the auction-time bidding feature in Google
23 Ads; correct?

24 A. Via our bid strategy. So they can turn it on, which means
25 they're not using our bidder anymore, they're using -- well, we

1 have a bidder that sits on top, but we're not setting the bids.
2 We would be still doing what we call portfolio optimization,
3 which includes any other campaigns the user puts into those
4 portfolios. But they can use Google Ads auction-time bidding,
5 and they're activated through our bid strategy type, that's
6 right.

7 Q. You then go on to say, "During beta testing, hundreds of
8 Search Ads 360 advertisers enabled Google Ads auction-time
9 bidding and saw an average lift in conversions of 15 to 30
10 percent at the same or better ROI"; correct?

11 A. Yep, that's what it says.

12 Q. Okay.

13 A. I should clarify. I was not a part of those testings at
14 that time. I -- I came at a later stage. I'm just confirming
15 that's what it says on the page.

16 Q. You have no reason to believe that Google was putting out
17 inaccurate information to its --

18 A. No, I'm not discrediting the accuracy. I'm just saying, I
19 don't have background on the actual -- I know the tests existed,
20 but I was not involved in those tests.

21 Q. Understood. If you could turn to PSX462.

22 A. Yep.

23 Q. This is an e-mail to you from Mr. La Force on January 8,
24 2020; correct?

25 A. That's right.

1 Q. All right. And also included in this was some of your
2 other colleagues.

3 A. I see on the first one it's my manager at the time, Shirin
4 Eghtesadi, and I don't see -- the note from Jim to me didn't
5 include anybody else. It was just to me and Shirin.

6 Q. Okay. And Mr. La Force says, "Hi, Ryan. We are ready to
7 start in the recruitment of customers for the floodlight/auction
8 time bid testing between Search Ads 360 and Microsoft Ads."

9 A. That's right.

10 Q. So you understood that on January 8th, Microsoft was ready
11 to go; correct?

12 A. Yeah. They had -- they said they had a list -- I'm just
13 reading through here. They had a list of 50 customers that
14 would qualify. My understanding of that was they did some
15 assessment on their side to say these customers could qualify,
16 but they didn't confirm with the customers yet. But they said
17 they had -- and I'm confirming they said they were ready to
18 start that process of recruitment.

19 Q. Right. They were ready to reach out to the advertisers,
20 tell them about the test, and seek their participation; right?

21 A. That's correct.

22 Q. Okay. Now, roughly an hour later, you communicated to your
23 colleagues on the second page -- and it's also on the screen, if
24 that's easier to read.

25 A. Thanks.

1 Q. "See e-mail below from Microsoft. We should ideally get
2 back to them regarding the road map by the end of the week."

3 A. "Next week," but yeah.

4 Q. So I checked. January 8 in 2020 was a Wednesday. So
5 roughly within seven business days you said we should really get
6 back to them?

7 A. Sure.

8 Q. And that's because at that point you knew that the idea of
9 doing this testing had been put on the shelf by Google; correct?

10 A. No, I don't recall that specifically. So we do road maps
11 in six-month cycles, and we -- as a part of our road map, that
12 means we have to have resources secured to do that work.

13 At this time, the road map had not been finalized, and I
14 can't say for sure, I don't remember exactly, but I think I
15 probably most likely at that time thought the road map was
16 coming soon.

17 So I was saying we should get back to them on the road map
18 to confirm or decline whether or not we actually had resources
19 to build this, because it did require work to share that data to
20 Microsoft.

21 Q. And you thought you would be in a position to do that
22 within roughly 10 business days?

23 A. At the time, yeah. I would say it's even now fairly common
24 that we -- as a product lead, I sometimes push overly ambitious
25 goals. But my intent was to get back to Microsoft as quickly as

1 we could about whether or not this was on our road map.

2 Q. And you advised your colleagues, "For now, I'll reply back
3 and let them know to hold off on outreach to customers until the
4 road map is shared with them"; correct?

5 A. Yeah, so we didn't want them to start recruiting customers
6 for this test until we've confirmed on our side that we secured
7 the resources as a part of the road map, that's right.

8 Q. And then within 20 minutes, you responded to Mr. La Force.
9 "We ask that no advertiser outreach is performed by Microsoft
10 until the road map is communicated and discussed."

11 A. That's right. And again, when we say "no advertiser
12 outreach," it's specific to this test and the recruitment for
13 this test, that's right.

14 Q. All right. Now, during this time period,
15 December/January -- December 2019/January 2020, you used Google
16 Chat to discuss SA360 product decisions; is that correct?

17 A. We use Chat as a mechanism to communicate across the
18 company of people that are local, local but not in the same
19 building, or I work with people all over the country and the
20 world at the time. So yeah, Chat was a means to communicate.

21 Q. All right. So let me ask you a few questions about that.

22 Now, you submitted a declaration in this matter. We're not
23 going to put it up on the screen, because Google filed it under
24 seal. If you could turn to PSX3013, just so you have it in
25 front of you. I will ask you some questions. If you need to

1 refer to that declaration, it's fine.

2 A. I don't see 3013 here.

3 Q. Actually, it might be the first document in your binder.
4 They may have put it in as 03013.

5 MR. MAURER: Mr. Cavanaugh, I believe it's 1303.

6 THE WITNESS: I've got it here.

7 BY MR. CAVANAUGH:

8 Q. Now, this is a declaration you signed in or about May 24,
9 2023?

10 A. That's right.

11 Q. Okay. And from May 1, 2019, to February 2023, your default
12 setting on Google Chat was history off; correct?

13 A. I'm sorry. Can you repeat the dates?

14 Q. Sure. May 1, 2019, to February 2023.

15 A. I'm not sure about the February 2023, but the default for
16 most of my time at Google is off for chat history, that's right.

17 Q. Okay. If you want to refer to your declaration, paragraph
18 5, to see if that refreshes your recollection.

19 A. Okay. Yes, I did put that there. That's right.

20 Q. Now, you've used Google Chat to discuss substantive matters
21 relating to your role in SA360 during that time period?

22 A. I guess I would classify it as both formal and informal
23 discussions, so formal being, you know, business-related
24 discussion but also informal conversations as well with
25 colleagues.

1 Q. And so it's certainly possible you used Google Chat to
2 communicate about decision points relating to SA360; correct?

3 A. Well, I would maybe reclassify it as we have conversations
4 about our business and our work, which is fairly routine. But
5 any like big decisions or things like that would have to be in
6 more formal documentation, like e-mails, Google Docs, Sheets,
7 Slides, things like that. And myself as a more junior product
8 lead, I would need more senior people to make decisions, to
9 confirm those decisions.

10 Q. During this time period, you used Google Chat to discuss
11 SA360 product decisions?

12 A. We would discuss the product and things like that, but I
13 guess I'm -- can you clarify what you mean by "product
14 decisions"? I guess maybe to --

15 Q. If you take a look in your declaration, you state in
16 paragraph 3, "In general, my practice is to communicate about
17 decision points related to my role in SA360 over e-mail," just
18 what you just told us. And you said, "I have used both e-mail
19 and Chat to discuss SA360 product decisions."

20 A. Yes, that's right.

21 Q. All right. You stand by that statement you made in your
22 declaration?

23 A. Yes, I do.

24 Q. And it's also possible you've used Google Chat to discuss
25 product feature road map decisions?

1 A. Yes, that's possible.

2 Q. And during the time period when you had the default in off,
3 you communicated with a number of individuals and groups over
4 Google Chat regarding SA360?

5 A. That's right.

6 Q. We were just looking at a document, an e-mail in which you
7 were referencing the road map for the first half of 2020 and how
8 it would relate to Microsoft's auction-time bidding.

9 It's possible you had a Google Chat communication relating
10 to that when the default was in off?

11 A. Yeah, I don't recall specific conversations, but yeah, it's
12 possible history was either on or off during that time.

13 Q. Well, in your declaration, you say from May 1, 2019, to
14 February 2023, your default setting in Google Chat was history
15 off.

16 So in January 2020, your default setting on Google Chat was
17 history off; correct?

18 A. Yeah, I believe that was how native Chat worked. It was
19 always off by default.

20 Q. Now, in September 2021, you received a legal hold notice
21 concerning this litigation?

22 A. That's correct.

23 Q. All right. And you were aware of this lawsuit apart from
24 receiving that notice, weren't you?

25 A. That's correct.

1 Q. And from time to time, you would receive e-mails providing
2 guidance and reminders regarding your legal hold obligations?

3 A. After September 2021, I think there at least was one other
4 reminder. I'm not sure how many there were.

5 Q. Okay. And so based on what you told us a moment ago, even
6 after you received the litigation hold notice, the default on
7 your Google Chat remained "history off"; correct?

8 A. Yeah, I would -- the setting was just again like the
9 default of how the product works. So it remained off.

10 Q. And so conversations regarding SA360 in which you had
11 history off continued to occur after you received the legal hold
12 notice; correct?

13 A. Yes, in my declaration, I said there was times when history
14 was on and off during that period.

15 Q. Well, in fact, the history setting was generally set in off
16 for conversations related to issues in this litigation?

17 A. I can't recall specifics, but there were times when the
18 chat history was off, that's correct.

19 Q. If you could look at your declaration, paragraph 6. You
20 say, "There were certain conversations I had over Google Chat
21 related to my work with SA360 for which I turned history off."

22 A. That's correct.

23 Q. That's an affirmative step you took?

24 A. That's right.

25 Q. Okay.

1 A. I should add, because I think it's related, I'm not a
2 lawyer. I've never received a notice like this before, but it
3 was a quite lengthy document. In preparation for this trial,
4 I've since learned that I misunderstood what the legal hold was.
5 I had thought it was related to like Docs and e-mails and
6 things. I didn't realize Chat was an aspect of that.

7 So that was something I learned later, that it was not --
8 that I should not have turned chat history off.

9 Q. We've had a lot of testimony in this trial so far about the
10 ability to turn defaults on and off.

11 Did you know how to change the default history to on in
12 Google Chat?

13 A. I don't believe I knew -- well, when you say default, that
14 means if I start a conversation with a person I never talked to,
15 I never changed that setting.

16 The setting we're talking about is on an individual basis
17 turning it on or off. I knew how to do that.

18 I don't believe I knew how to change the default. At least
19 I didn't do it at the time, no. I'm not surprised that feature
20 is available, but I did not do that.

21 Q. And you didn't look into how to do it; correct?

22 A. I didn't think I was supposed to. In fact, I thought the
23 opposite. So yeah.

24 Q. You thought you were supposed to continue to have the
25 history deleted?

1 A. So my interpretation of -- sorry. My interpretation of the
2 hold was for informal conversations, which Chat is, it's more --
3 the way we use it at work is as if you're having a conversation
4 by a water cooler with a colleague. Even if it's business or
5 personal, like it's an informal dialogue.

6 My understanding was things that could be taken out of
7 context or misconstrued should not be in writing. So that's why
8 I would have turned chat history off.

9 Q. So even when you were having substantive conversations with
10 colleagues, you viewed them as, quote, informal that should not
11 be preserved?

12 A. Informal in the sense of it's free form, it's not well
13 thought out or well thought and reviewed. It's a conversation.
14 I type very fast, and we're having real-time discussions about
15 product, you know, work-related stuff, and I thought because of
16 the informality of it, that it was best to turn history off,
17 because I thought that was what I was supposed to do.

18 Again, our product decisions are documented in e-mails, and
19 if I send it to my manager, you know, it's not over a chat.
20 It's in a document or e-mail and saying can you sign off on
21 this, et cetera.

22 So to me, these were informal business discussions, not
23 finalized product decisions that should be in writing. So I
24 didn't delete any docs or anything like that. It was I thought
25 that was what I was supposed to do. I misunderstood the legal

1 hold.

2 Q. Okay. Let's turn to PSX433.

3 Your Honor, this is admitted.

4 THE COURT: Okay.

5 BY MR. CAVANAUGH:

6 Q. This is an e-mail from you to Mr. Humphrey at Microsoft on
7 March 6, 2020; correct?

8 A. That's right.

9 Q. All right. And did you compose this e-mail?

10 A. I did.

11 Q. Okay. And you copied a number of your colleagues on it?

12 A. Shirin, my manager, Amit Varia, what we call group product
13 manager who is like head of the product at the time, and then a
14 couple of the product managers as well.

15 Q. Okay. And you say, "Thank you for your patience as we
16 finalized our road map. Below are the current Microsoft
17 Advertising features we plan to begin development on in
18 H1 2020."

19 So at this time, your team had finalized the road map that
20 you were discussing with Microsoft in January?

21 A. Yeah, this is the same road map I referenced in January,
22 yep.

23 Q. All right. And so what prompted your e-mail was that three
24 days before this Microsoft had asked hey, what's going on;
25 right?

1 A. I don't recall that. But we said we were going to give
2 them the road map, and we released it to everybody at the same
3 time. But I don't remember that particular note that you are
4 talking about.

5 Q. So three months after you said let's get it to them next
6 week, you finally sent it to them in March?

7 A. Well, yeah. So again, I'm not in charge of the road map.
8 The product team is. So they -- when they finalize it and
9 everyone agrees on what the funding looks like for that road
10 map, they share it with myself and our sales teams and customers
11 and partners at the same time.

12 Q. And you say towards the bottom of your e-mail, "For this
13 planning cycle, we have elected to defer running a Microsoft
14 auction-time auto bidding test but remain open to revisiting
15 this feature based on consumer demand in future planning
16 cycles."

17 A. "Customer demand," but yes, that's right.

18 Q. So the SA360 team had decided to defer the testing that you
19 had been discussing with Microsoft since October 2019?

20 A. That's correct. The team did not have the engineering
21 resources allocated for the road map, that's correct.

22 Q. Now, in that e-mail, if we go back to the prior page, you
23 do identify three road map items that would involve Microsoft
24 Advertising features?

25 A. Yeah, the parallel tracking, prominence metrics, and

1 expanded support for DSA, that's right.

2 Q. Okay. So why don't we keep this up on the screen, and let
3 me ask you to turn back to Exhibit 668.

4 A. Okay.

5 Q. And if we could go to that list of items that Mr. La Force
6 had provided you.

7 A. All right.

8 Q. Would you agree with me, if you look at this list, you
9 don't see parallel tracking?

10 A. It is on the last page.

11 Q. Did I miss it? Oh, I apologize. Yes, it is.

12 A. So parallel tracking is a feature that if we didn't support
13 it, it would actually break the product.

14 Q. All right. And so this indicates it's already supported;
15 correct?

16 A. This document did. I'm not sure if it was one of the ones
17 that we called out as true or false, but it is on the document
18 listed as supported.

19 Q. In Microsoft's view, it was supported; correct?

20 A. Yeah, I don't recall if it was or was not. I don't have
21 the notes in front of me. But Microsoft claimed that it was
22 supported.

23 Q. All right. The next one is "prominence metrics."

24 That's not even on Mr. La Force's list, is it?

25 A. That is not on this list, I don't believe.

1 Q. Okay. And the third, "expanded scope for DSA," that's on
2 Bates 312; correct?

3 A. That's right.

4 Q. All right. And that is a prioritized item?

5 A. That was on the road map, that's right.

6 Q. Right. And in Mr. La Force's list of features, that is one
7 of the highlighted items?

8 A. That's right.

9 Q. All right. Where it's noted that it was already partially
10 supported; correct?

11 A. "Partially," I believe, in this context meant like
12 reporting, so we could bring that in for reporting but you
13 couldn't use any other features in the platform. So expanded
14 was making sure it worked with other Search Ads 360 features,
15 that's right.

16 Q. Okay. So that's what refers to campaign management.

17 A. And bid optimization, that's right.

18 Q. So it could already be partially used. This was expanding
19 the use of it?

20 A. Yeah, just for reporting, so what we call syncs into the
21 platform so you know how much it cost, and you could see some
22 properties of it, but you couldn't use it with other features.
23 So we were expanding the support.

24 Q. Okay.

25 THE COURT: Just so we're clear, the "DSA" in the

1 e-mail refers to dynamic search ads; correct?

2 THE WITNESS: That's right.

3 MR. CAVANAUGH: Thank you, Your Honor.

4 BY MR. CAVANAUGH:

5 Q. If we could turn to PSX571.

6 A. Yep.

7 Q. This is an e-mail from you dated March 31, 2020; correct?

8 A. That's right.

9 Q. All right. And you have already testified that around
10 September of 2019, the auction-time bidding feature for Google
11 Ads had been integrated into SA360; correct?

12 A. Yes. It wasn't all the features, but I know a good amount
13 of features were, yes.

14 Q. Right. And in March of 2020, you were reporting to your
15 team that Search Ads 360 is making an update to its auction-time
16 bidding data sharing?

17 A. Yes. The agreement, the policy that the users select in
18 the product to agree to share the data, there was a change to
19 that policy. That's what this is highlighting, that's right.

20 Q. All right. So what you were doing was you were making
21 sure, to quote, Search Ads 360 will require sharing of all
22 floodlight and other conversions to Google Ads for advertisers
23 that are using search ads for -- Search Ads 360 auction-time
24 bidding?

25 A. The initial implementation of that data sharing only

1 specific what we call floodlight goals or actions would be given
2 to Google Ads.

3 This update meant that all of their floodlight data would
4 be sent to Google Ads. So it's only the auction-time bidding
5 users. But we wanted to notify them of this implementation
6 change.

7 The background for it was we had our new platform called
8 internal code name Amalgam or the new Search Ads 360 that there
9 were some technical limitations why we couldn't very easily like
10 only select a few conversions.

11 So we updated the policy and let customers know that this
12 is the change, and if they want to no longer use auction-time
13 bidding, they could turn it off, et cetera. But that was the
14 background of the change.

15 Q. Okay. And that's what you identified in the next what's
16 changing.

17 Search Ads 360 will share all conversions to Google Ads for
18 the advertisers that have opted into Search Ads 360 auction-time
19 bidding?

20 A. That's right.

21 Q. Now, you also note in here to your team what the benefit
22 would be for advertisers; right?

23 A. That's right.

24 Q. You say, "This allows for improved consistency of data
25 available for reporting across both products and sets the stage

1 for future innovation and new product offerings"; correct?

2 A. That's correct.

3 Q. And by "both products," you were referring to SA360 and
4 Google Ads; correct?

5 A. That's right.

6 Q. Okay. Could you turn to PX457.

7 A. Yep.

8 Q. Now, one of the things the SA360 team does, it focuses on
9 product prioritization, what changes should be made; correct?

10 A. Yeah, so this specific deck highlights our sales and Gtech
11 people, the people on the front line talking to customers,
12 typically on a bi-annual basis, they stack rank or order in
13 relative priority what they're hearing from customers or for new
14 business what they might need to acquire new business or support
15 teams where there's gaps that they feel like are meaningful.
16 And this is provided to the product team as input into their
17 planning process.

18 Q. All right. And this was last updated on May 8, 2020?

19 A. I believe so, yes.

20 Q. All right. And this is something you would review?

21 A. My team at the global product lead team would be reviewing
22 this and helping facilitate the process.

23 Q. Okay. And it's based on feedback from customers; correct?

24 A. Yes, it's based on customers. It's also based on again
25 like our support teams. They see common issues. So they might

1 have unrelated items that are not -- it's indirectly from
2 customers. But yes, this is largely customer feedback-driven.

3 THE COURT: Can you just clarify, is this a road map
4 planning document for the next six-month cycle, or is it
5 something else?

6 THE WITNESS: So before product finishes their road
7 map, the sales team and Gtech team's internal folks give input
8 into that process. It's kind of like a wish list based on what
9 they're hearing.

10 So nothing in here is like -- it's not saying we're
11 building this. It's just we're hearing this from customers, or
12 we think this is important from a new business perspective to
13 stay competitive, et cetera.

14 THE COURT: Okay.

15 BY MR. CAVANAUGH:

16 Q. If you turn to Bates page 736.

17 A. Yep.

18 Q. There's the "top 20 sales/services feature requests."

19 A. That's right.

20 Q. And the document then goes on to identify what those top 20
21 are; correct?

22 A. That's right.

23 Q. All right. And if you turn to Bates 740.

24 A. Yep.

25 Q. I don't think this goes on the screen. Oh, actually, I

1 guess it can go on the screen.

2 MR. MAURER: It can.

3 MR. CAVANAUGH: Thank you.

4 BY MR. CAVANAUGH:

5 Q. The eighth item listed is "auction-time bidding for other
6 engines"; correct?

7 A. That's right.

8 Q. All right. And the first one listed is "for Microsoft
9 Advertising"?

10 A. Yes, that's right.

11 Q. All right. And this indicates that this information came
12 from customers in America; correct?

13 A. In the middle section, it highlights the regions that had
14 input or the teams that had input. So -- but Americas is
15 included in that, that's right.

16 Q. Well, what I was referring to -- I agree, America is there,
17 but if you look over in the right-hand -- on the right-hand
18 side, the yellow comment bubble or --

19 A. Yeah.

20 Q. You can tell me what that is.

21 A. Comment bubble is fine. I'm not sure what that is, but
22 yeah.

23 Q. That indicates it was raised by an American customer
24 survey; right?

25 A. Actually, in this particular case, "JP" stands for Japan,

1 and that customer is a Japan-based customer. My understanding
2 was they were looking for Yahoo! Japan auction-time bidding.

3 Q. Well, actually, can you go to page 737. It provides
4 information and context.

5 A. I don't think I see 737. Oh, sorry. You're talking about
6 in the same --

7 Q. Yes.

8 A. Okay. I'm there.

9 Q. And you see that symbol on the right-hand side? It states
10 that relates to "raised in American customer survey"; correct?

11 A. That's right.

12 Q. All right. And if we can go back to the page we were just
13 on, 740.

14 A. Yep.

15 Q. All right. Yahoo! Japan and Microsoft, those are listed as
16 two separate things, are they not?

17 A. They are.

18 I think my point of clarity is the customer listed, I
19 believe, is for Yahoo! Japan, though I agree that the icon thing
20 is listed there for the whole row. That would be my
21 understanding of what that is, but --

22 Q. Let me ask you to turn to page 747.

23 A. Okay.

24 Q. Let's start with the prior page. This is a section about
25 the America customer survey?

1 A. Yep.

2 Q. All right. And if we go to 747 and blow that up so an old
3 man's eyes can read it.

4 The survey questions are, "Which feature could SA360 build
5 or improve upon that would have the biggest impact on your
6 business?" Basically asking customers how can you make SA360
7 better; right?

8 A. That's right.

9 Q. And you had 77 respondents. 80 percent of them came from
10 advertising agencies?

11 A. Yeah, that's right.

12 Q. All right. And if we go to 748, under "engine requests,"
13 "more Bing parity"; correct?

14 A. Yeah, "more Bing parity," and it calls out the responsive
15 search ads, audiences, and other formats. And formats typically
16 in our industry is referred to as campaign types. So that would
17 be -- yeah, so campaign types.

18 Q. If we can turn to PSX586.

19 A. Okay.

20 Q. This is entitled "SA360 competitive analysis."

21 Are you familiar with this document?

22 A. I am not.

23 Q. Okay.

24 A. Or at least I don't recall seeing this, no.

25 Q. From time to time, would Google do a competitive analysis

1 of where SA360 stacked up versus its competitors?

2 A. That would not have been my team necessarily. I do know
3 some of the new business folks are interested in what -- as
4 they're looking for new business, how other tools out in the
5 market are using features. But I actually don't know who this
6 person is or the background of this.

7 Q. Let me ask you to turn to page 221. Don't put this up on
8 the screen. I believe this page is -- Google has requested it
9 be completely redacted. This page provides -- Your Honor, I
10 move to admit 586. Apparently, I overlooked doing that.

11 MR. MAURER: No objection.

12 THE COURT: Okay. This is the document we're
13 presently on, 586?

14 MR. CAVANAUGH: Yes.

15 THE COURT: All right. It can be admitted.

16 (Exhibit PSX586 received into evidence.)

17 BY MR. CAVANAUGH:

18 Q. Bates 221, this provides market shares for SA360 and its
19 competitive -- competitor SEM tools; correct?

20 MR. MAURER: Objection; foundation. He just testified
21 he's not familiar with the document or know any background about
22 it or even who the person is that's listed on the title page.

23 THE COURT: Well --

24 MR. CAVANAUGH: Your Honor, it's a Google business
25 record.

1 THE COURT: Well, I was just going to say, it's been
2 admitted into evidence. He can testify about it to the extent
3 of his knowledge. If he doesn't know about it, he doesn't know
4 about it.

5 BY MR. CAVANAUGH:

6 Q. Okay. If you look in this document, sir, it's reflecting
7 what SA360's market share is for the period March 2014 to
8 May 2019; correct?

9 A. I can see that here.

10 Q. All right. And you would agree with me its market share
11 has grown significantly over that time period?

12 A. I can see that from the document, yes.

13 Q. All right. And the market share number, which is
14 referenced under May of 2019, is that consistent with your
15 understanding of what -- that SA360 is the largest SEM tool?

16 A. Yeah, I was generally aware. We were -- I don't know the
17 specific number. This is -- but yes, this looks, I guess, in
18 line with what I would have expected at that time.

19 Q. All right. And did that share continue to grow into 2020?

20 A. I don't know. My team did not track that, or at least I
21 was not responsible for looking at that.

22 Q. Okay. The three other competitors that are listed here,
23 Marin, Adobe, and DS, all of their shares decreased over that
24 period from 2014 to 2019; correct?

25 A. It looks like a couple of them are flat, but there's one in

1 particular that looks like it declines, that's right.

2 Q. I mean, Marin decreased significantly, did it not?

3 A. I'm partially color-blind. So I can't see which row is
4 which, but I can see there's one in particular that went down,
5 but again --

6 Q. If you look at the numbers in the column for Marin under
7 2014 --

8 A. Oh, yes, I can see it went down.

9 Q. Significantly, wouldn't you agree?

10 A. That looks pretty significant, yeah.

11 Q. Right. And Adobe dropped by half, had it not?

12 A. I can see that.

13 Q. Now, if you could turn to page 223 of this document, it
14 identifies SA360's limitations versus the competition.

15 Do you see that?

16 A. Yep.

17 Q. All right. And one of those is the "perceived bias that
18 SA360's vested interest in increasing Google spend compromises
19 its recommendations and bids."

20 Do you see that?

21 A. I can see that.

22 Q. All right. Were you aware that that was a concern of
23 advertisers?

24 A. Not directly. I was not involved in this. So I'm not
25 sure of the source of that information.

1 MR. MAURER: Mr. Cavanaugh, I believe this is
2 confidential and should not be up on the screen.

3 MR. CAVANAUGH: Oh, I'm sorry. I didn't think it was.
4 Sorry. I thought it wasn't.

5 BY MR. CAVANAUGH:

6 Q. And does page 223 go on to identify other limitations?

7 And just answer that question yes or no. You don't have to
8 describe.

9 A. Yes, there are a few other items on that page, that's
10 right.

11 Q. Thank you. If you could turn to PSX441.

12 A. Okay.

13 Q. Now, Mr. Krueger, I will tell you, there is information
14 here that Google has requested be confidential. So I would ask
15 you not to refer to the two companies that are referenced here.

16 A. Sure.

17 Q. Refer to them as the G company and the U company.

18 A. Okay.

19 Q. Now, this is internal Google e-mail regarding -- the title
20 is "Bing auction-time bidding performance"; correct?

21 A. The top is a forward, but yeah, that's Bing auction-time
22 bidding performance, that's right.

23 Q. All right. And you were involved in this e-mail chain,
24 were you not?

25 A. I was -- it doesn't look like I'm included in that top

1 e-mail, but the other e-mails from some of our sales team I
2 was -- I was included.

3 Q. Okay. This e-mail is a discussion between you and other
4 Google employees about the results received from two companies
5 that were testing their ad campaigns with and without the
6 Microsoft auction-time bidding feature; correct?

7 A. It's a long document here, but from what I understand, this
8 was -- these customers were testing Microsoft auction-time
9 bidding, yeah.

10 Q. Okay. Let's start at Bates 907.

11 A. Okay.

12 THE COURT: To be clear, when we say "testing
13 Microsoft auction-time bidding," do we mean on Microsoft's own
14 platform or for -- as a part of this process of trying to
15 integrate it in SA360?

16 THE WITNESS: On Microsoft's platform. So they were
17 using presumably Microsoft's conversion source, their version of
18 floodlight on Microsoft Advertising, yeah.

19 BY MR. CAVANAUGH:

20 Q. And they were comparing that with the results you would get
21 if you went through SA360 and you did not have the ability to
22 use the Microsoft Ads auction-time bidding feature; correct?

23 A. I'm not sure. I'd have to look through all the details to
24 see the full test. But it appears to be -- if I could just take
25 a quick peek.

1 THE COURT: Let's do this: Why don't we --

2 THE WITNESS: They're doing some testing in Microsoft,
3 and they're comparing it to either -- I don't know if it was
4 what we call pre-post test, which is you take the campaign and
5 just put it on, or what we call like a split base test where you
6 take half the traffic and put it through the two systems. I
7 would have to see. But yeah, they were doing a test on
8 Microsoft.

9 THE COURT: Why don't we do this: This is a
10 relatively long e-mail, and I want to make sure that --

11 MR. CAVANAUGH: I have a lot of questions about this,
12 Your Honor.

13 THE COURT: It seems like a document you have more
14 than one question about, and we've hit the 5:00 hour. So why
15 don't we go ahead and bring our day to close, at least in terms
16 of our testimony.

17 Mr. Krueger, we're going to have you come back tomorrow for
18 your continued testimony. We are going to begin at 9:30
19 tomorrow. I would just ask you please not to discuss your
20 testimony with anyone overnight.

21 THE WITNESS: Sure. Thank you.

22 THE COURT: Feel free to step down, and you're welcome
23 to leave the courtroom.

24 All right, everyone. Let's just talk schedule tomorrow.
25 Where do we stand in terms of our week at a glance here?

1 It was going to be Mr. Krueger, Mr. Chang, and Professor
2 Whinston. Do we still think that's the expected order?

3 MR. CAVANAUGH: I probably have less than half an hour
4 with Mr. Krueger.

5 THE COURT: And then Mr. Chang is ready to go
6 tomorrow; is that correct?

7 MS. BELLSHAW: Yes, Your Honor.

8 THE COURT: Okay. So we think we will get to
9 Professor Whinston tomorrow?

10 MS. BELLSHAW: Yeah, we believe so. It depends upon
11 how long --

12 MR. MAURER: Our redirect will not exceed the time
13 that they took, probably much less.

14 THE COURT: If we stick to these estimates, it sounds
15 like it should be some time tomorrow afternoon hopefully.

16 All right. Mr. Schmidtlein, you wanted to raise an issue
17 concerning Professor Whinston and the Daubert motion.

18 MR. SCHMIDTLEIN: You had asked us previously to try
19 to give you some notice. And I've conferred with counsel for
20 the DOJ to try to figure out if there are aspects of our Daubert
21 motion that are going to read on the portion for tomorrow.

22 THE COURT: Right.

23 MR. SCHMIDTLEIN: I think there is going to be one
24 sort of narrow area. It has to do with a market power
25 assessment that Professor Whinston did.

1 I think there's sort of two aspects of it. One is he
2 relies on some analyses that another expert did, Professor
3 Hammer -- or Ms. Hammer, not professor, Ms. Hammer, who we filed
4 a Daubert motion at that aspect. It's basically her looking at
5 Google's margins and comparing those to some benchmarks that she
6 picked that we assert are not appropriate and that the analysis
7 is flawed and methodologically, you know, inaccurate for a whole
8 virus of reasons. So to the extent he's relying on that, we've
9 Dauberted him.

10 He also separately, I think, has picked a benchmark.
11 Again, I think the testimony you would hear tomorrow is going to
12 be, I've compared Google's margins to a benchmark of companies'
13 margins, Google's are higher, that tells us something.

14 Again, I think we have contested the validity of that
15 benchmark from a Daubert perspective.

16 THE COURT: I appreciate it. I actually have read the
17 Daubert motions, but I did not -- I've got to go back and
18 refamiliarize myself with them. So I will take a look at them
19 this evening, and we can talk about it tomorrow morning.

20 MR. SCHMIDTLEIN: I guess one other issue to front
21 just because we are going to get to Mr. Chang, Your Honor, I
22 think, read the motion as to Mr. Chang leading up to trial that
23 I believe his counsel filed.

24 THE COURT: Oh, yes, right, right, right.

25 MR. SCHMIDTLEIN: I will venture to make a joke here.

1 Mr. Chang's testimony tomorrow is going to be hearsay-a-palooza.
2 I think both sides, as Your Honor has recognized, have taken
3 positions as to hearsay.

4 My proposal, I guess on behalf of Google, it's going to be
5 riddled with hearsay. Some of it they like; some of it we like
6 tomorrow. I think our position is all of this Samsung hearsay
7 should be out. But my proposal, and again, I don't know what
8 their position is, but my proposal is give us a standing
9 objection. You take it all in tomorrow. You're going to see
10 documents where he is e-mailing or Slack messaging with various
11 people who are purporting to recount things from, in some cases,
12 multiple levels. And you're going to have to evaluate it.

13 And we may or may not want to, when we get to post-trial
14 findings, try to persuade you that either the weight should be
15 minimal to zero and/or it's inadmissible in its entirety. But
16 rather than force this on you sort of on the front end, let's
17 just bring it all in, and we will sort of deal with it.

18 THE COURT: Okay. Mr. Dintzer?

19 MR. DINTZER: Except for the palooza part, the idea
20 that the parties withhold their objections on hearsay tomorrow
21 for Mr. Chang so we can route him through, and there is a
22 hearsay discussion to be had, we know about some of the
23 documents and stuff, but for Mr. Chang, we bring it in. And if
24 there are fights to be had about hearsay, we do that at the
25 other end, so we can get Professor Whinston on and off as well.

1 THE COURT: That's fine. I appreciate that preview.
2 And then do we think we will get to Ms. Lim on Friday?

3 MS. BELLSHAW: Your Honor, our hope is that we do
4 Ms. Lim and Mr. Varian on Friday. We understand they're both
5 coming into town.

6 THE COURT: These are the Google witnesses that have
7 been scheduled for --

8 MS. BELLSHAW: Ms. Lim is a third party. She's from
9 JPMorgan.

10 THE COURT: I see. So bottom line is, wherever we are
11 with Professor Whinston at the end of the day tomorrow, we'll
12 take the two fact witnesses first thing Friday, and we will
13 finish up with them. If there's still time remaining, we will
14 continue with his testimony, wherever it may be in his
15 examination. All right?

16 Okay. Anything else anybody wants to raise?

17 MR. HAFENBRACK: Your Honor, Joshua Hafenbrack for the
18 United States.

19 I wanted to clear up one thing on the Professor Whinston
20 Daubert issue. We don't expect him tomorrow to be relying on
21 Ms. Hammer's analysis at all or providing any comparative sort
22 of profitability analysis. So I don't think either of those
23 issues that were raised in Google's Daubert motions will be
24 implicated by his testimony tomorrow.

25 THE COURT: That will save me some reading this

1 evening.

2 MR. HAFENBRACK: Thank you, Your Honor.

3 THE COURT: Yes?

4 MR. GOWER: Cameron Gower for the United States.

5 We had one other housekeeping matter. The fact packs from
6 Dr. Ramaswamy's testimony, we've come to an agreement with
7 Google on those, and we have 11 of them, 11 quarters for you. I
8 can give you the binders, or I can read you the UPXs.

9 THE COURT: Why don't you start there.

10 MR. GOWER: We will go with the UPXs. I can avoid
11 reading out all 11. It's UPX1071 through 1076, UPX0476,
12 UPX0475, and UPX2007 through UPX2009.

13 THE COURT: Okay. So those will all be admitted into
14 evidence.

15 (Exhibits UPX1071 through 1076, UPX0476, UPX0475, and
16 UPX2007 through UPX2009 received into evidence.)

17 THE COURT: Thank you.

18 All right. Anything else housekeeping wise? Do we have --
19 Mr. Dintzer?

20 MR. DINTZER: I was just going to say nothing else on
21 behalf of the DOJ plaintiffs, Your Honor.

22 THE COURT: Unless the parties have anything else, I
23 wanted to just discuss the transcripts that we received, I guess
24 it was, Friday of last week, I think. I'm losing track of the
25 days. Maybe it was Monday of this week. I'm sorry. And we do

1 have counsel for Apple here, I believe, in person, and we do
2 have counsel for DuckDuckGo, Ms. Maxim, is on remotely.

3 MR. WICK: Your Honor, Ron Wick. I am here for
4 DuckDuckGo as well.

5 THE COURT: Terrific. We've got counsel for
6 DuckDuckGo present.

7 So let me just explain what I've done with these
8 transcripts for the parties' and third parties' benefit.

9 We have for Mr. Weinberg and Mr. Giannandrea done a literal
10 line-by-line reading of the transcripts that were submitted.
11 Given the length of Mr. Giannandrea's testimony, we didn't get
12 to Mr. Cue's, but that's on tap for probably this evening.

13 And what I have done is essentially apply the Hubbard
14 factors as to each of the requested redactions. I just want to
15 explain at a very high level what my thinking is and ultimately
16 what the output is going to be and what will be made available,
17 what will be unsealed.

18 As you all know, the Hubbard factors are six: The need for
19 the public access to the documents at issue; two, the extent of
20 previous public access to the documents or, in this case,
21 testimony; three, the fact that someone has objected to
22 disclosure and the identity of that person for the strength of
23 any property and privacy interest asserted; five, the
24 possibility of prejudice to those opposing disclosure; and six,
25 the purposes for which the documents were introduced during the

1 judicial proceedings.

2 As a general matter, as to the testimony in its entirety,
3 and this isn't specific to any particular subject matter, the
4 public access -- the public interest is certainly high. This is
5 testimony that's being presented at a trial. This is a
6 government enforcement action, which heightens the public
7 interest in the testimony that's being presented to the Court.

8 And so that element is weighed heavily, as I'm required to,
9 in my consideration.

10 With respect to the second element, by and large, most of
11 the information that has been requested to be redacted, to my
12 understanding, is not public with the following caveat, which is
13 that some of the information that was treated as under seal is
14 now, I think, a matter of public record as a result of
15 Mr. Nadella's public testimony. I think that was only
16 yesterday.

17 And so I've taken that into account in thinking about what
18 the redactions ought to be.

19 There are objections from the third parties that I've
20 mentioned, as well as Google has objected to certain disclosures
21 in terms of the strength of the property and privacy interests
22 and the possible prejudice. That's factors 4 and 5.

23 There is obviously a privacy interest from the third
24 parties and Google as to some of this material. In terms of the
25 prejudice, I think it varies, to the extent that there is any,

1 depending upon the subject matter of the testimony, and that
2 will be reflected in what I'm about to say momentarily.

3 And then finally, the sixth factor, which is that the
4 documents, what their purposes were, in this case testimony, of
5 course, this is being presented at a judicial proceeding in a
6 trial for my consideration in order to make ultimately both
7 factual and legal determinations.

8 So essentially, that element aligns with the first element.

9 So as I said, we have done a line-by-line consideration of
10 the sealed testimony and have concluded that much of it will be
11 unsealed. And that, of course, includes the portions that the
12 parties and the third parties have indicated to which they have
13 no objection.

14 Most significantly, to the extent a third party has asked
15 that testimony concerning consideration of partnership deals,
16 and specifically I'm talking here about the testimony concerning
17 potential partnerships between Microsoft and Apple and
18 DuckDuckGo and Apple, that testimony will be unsealed. I think
19 it goes to the heart of the case, and other than the particular
20 deal terms involved, the prejudice from the disclosure, in my
21 view, does not outweigh the public interest and its purpose of
22 introduction.

23 By and large, that testimony consists of, certainly in the
24 case of DuckDuckGo, just walking through with Mr. Weinberg what
25 the communications were between the parties, when they occurred,

1 the two parties to the potential partnership. And a similar set
2 of question and answers existed with respect to Apple and
3 Microsoft.

4 And so that as a general category I viewed as particularly
5 critical to the case, central to the contentions actually both
6 that the plaintiffs are making and in many respects Google's
7 defenses. So I thought the centrality of those subject matters
8 warranted its unsealing.

9 There are limited categories of -- that I think fall into a
10 different balancing and largely because I think the prospect of
11 prejudice to a third party -- and I'll talk about Google
12 momentarily, to a third party outweighs the remaining Hubbard
13 factors, because I think the potential for prejudice is greater
14 than the public's need for access of these particular categories
15 of the testimony.

16 The first category are trade secrets. At least it's my
17 perception, it's largely from Mr. Giannandrea's testimony in
18 which he did testify about certain investments Apple had made
19 and certain infrastructure of Apple that at least I understood
20 during the course of the testimony, including project names that
21 are not a matter of public record and that I believe and
22 understand to be trade secrets of Apple, those will be -- will
23 remain under seal.

24 Financial numbers, internal financial numbers that have not
25 been publicly released, I think, are of the kind that if

1 disclosed are potentially prejudicial to the parties, and
2 frankly, there's not as much public interest into those internal
3 financial numbers, it seems to me, as much of the other
4 testimony that is being unsealed.

5 I have redacted some testimony about strategic investments
6 and the quantity of such investments -- again, this was
7 primarily in the Apple testimony of Mr. Giannandrea -- and some
8 internal discussions, but not all, about potential partnerships.

9 To the extent that there were high-level discussions
10 between senior executives about potential partnerships, given
11 the sensitivity of those communications, I thought on balance
12 that their release would be potentially prejudicial.

13 I should note that the fact that these -- this is the
14 information or evidence relating to third parties, obviously,
15 also played a role, and given the Hubbard factors, the third
16 parties' consideration is entitled to a little bit more weight
17 than that of a party. And so I took that into account with
18 respect to some, but not all, internal discussions about
19 potential partnerships.

20 Importantly, what I did not unseal are impressions of the
21 partner's product and quality. That goes to the very heart of
22 what the issues are in this case. It goes to Google's defenses.
23 And the fact that, for example, Apple was evaluating Bing's
24 search quality or that Apple was considering DuckDuckGo's search
25 quality does not seem to me to be the kind of proprietary

1 interest or trade secrets that ought to remain out of the public
2 view, given the importance of those subject matters and those
3 topics.

4 Finally, Google has asked that specific deal terms be kept
5 under seal. And what I mean by "specific deal terms," I mean
6 the actual terms of the deal, that is, the deals that are not
7 only of recent history but those that are going forward. I have
8 agreed to do that for present purposes and in the present time,
9 because I do think the disclosure of those specific terms -- and
10 there's only, I think, one or two; there's not that many -- if
11 disclosed could create a public disadvantage, competitive
12 disadvantage for Google and any future negotiations with
13 potential partners.

14 Now, all that said, all of this is subject to change. As
15 you all know, the public interest factor is a bit of a sliding
16 scale, and ultimately, that factor is at a zenith when the Court
17 actually relies on either testimony or documents themselves in
18 making either factual determinations or decisions.

19 We are obviously not at that stage yet. So if it turns out
20 that any of this material that ultimately is redacted -- that is
21 redacted for the present time is something that moves into a
22 different place and that specifically is maybe a fact that I
23 rely on, the balancing of these factors may change.

24 So that is where we are currently with those transcripts
25 and the release of those transcripts.

1 So we do have Mr. Weinberg's and Mr. Giannandrea's
2 transcripts available. They have been provided to Mr. Zaremba,
3 if folks wish to place an order for those, and we obviously will
4 give the final redactions to the parties and, of course, to the
5 third parties who have an interest in that material. Otherwise,
6 the redacted portions will be reflected in whatever is released
7 if a request is made for that testimony.

8 All right? Anything else before we adjourn?

9 Mr. Schmidtlein?

10 MR. SCHMIDTLEIN: I think you had asked us to get
11 Mr. Higgins's testimony from Verizon, I think, in the queue for
12 Friday.

13 THE COURT: Yes.

14 MR. SCHMIDTLEIN: I believe their counsel has asked if
15 we could push that to Monday because of some internal Verizon --
16 I think people are out or there's some issue with that getting
17 done.

18 THE COURT: Okay.

19 MR. SCHMIDTLEIN: And I don't think either of the
20 parties would oppose a modest extension so that we can go
21 through that process fully with them. It probably is going to
22 be helpful to see and for them to hear your comments today. So
23 on their behalf -- I know they're not here today, because
24 they're from out of town. If we could get that little bit of
25 extra time for them, I think they would appreciate it.

1 THE COURT: You can communicate to them Monday is
2 fine.

3 Unless there's anything else, we will adjourn for the day
4 and see everybody tomorrow morning. Thank you, all.

5 (Proceedings adjourned at 5:19 p.m.)
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CERTIFICATE OF OFFICIAL COURT REPORTER

I, Sara A. Wick, certify that the foregoing is a correct transcript from the record of proceedings in the above-entitled matter.

/s/ Sara A. Wick

October 5, 2023

SIGNATURE OF COURT REPORTER

DATE

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