MoffettNathanson's Inaugural Technology, Media, and Telecom Conference

Company Participants

Neal Mohan, Chief Executive Officer, Senior Vice President, Google

Other Participants

• Michael Nathanson, Analyst, MoffettNathanson

Presentation

Michael Nathanson (BIO 2009061 <GO>)

This is a treat and I am so excited for this next interview. Neal Mohan is here from CEO of YouTube and SVP, Google. Thanks for being here. Before we start, I have to read the Safe-Harbor, okay? So some of the statements that Mr. Mohan may make today could be considered forward-looking. These statements involve a number of risks and uncertainties that could cause actual results to differ materially. Any forward-looking statements that Neal makes are based on assumptions as of today and Alphabet undertakes no obligation to update them. Please refer to Alphabet's Form 10-K for a discussion of the risk factors that may affect its results, okay?

So with that, thanks for being here. Let me give people a little bit of a background for those that don't know who Neal is. So Neal has been at Google for 15 years. First, building out the Display and Video Ads business and then YouTube's product operation. He stepped into lead YouTube when Susan stepped down as CEO, I believe in March, and now overseas YouTube's content and business operations, engineering product development. He previously served as YouTube's Chief Product Officer and was responsible for YouTube's products, user experience, and trust and safety and all platforms and devices globally. Prior to this, he held the role as SVP of Display and Video Ads at Google, and before joining Google, Neal was Senior Vice-President of Strategy and Product Development at DoubleClick, where he built the company's strategic plan with the product team and rapidly grew the business. So thank you so much for being here. This is the first on the back of Brandcast last night, (inaudible) couple of days. You were named CEO of YouTube in March and I thought would be helpful for everyone here to walk us through the priorities you have in this new role.

Neal Mohan {BIO 17200493 <GO>}

Sure, first of all, thank you, Michael, for having me here. It's great to be here and thank you everybody for making the time. You know I think, I will just start off by saying, just repeating what our mission is at YouTube, which is, we like to say that

YouTube's mission is to give everyone a voice and show them the world, and that sounds very lofty but really fundamentally it's about the creators on our platform. Everything at YouTube starts with our creators. They are incredibly talented. They're all over the world. They are looking to build audiences, share their creativity with the world, and build a business. And so by enabling our creators to build an audience and build -- build a living on our platform, that's what brings their millions and millions of fans to YouTube, and of course, that's what is attractive to our advertisers, all our partners that support this incredible creator economy on YouTube, and so that's sort of the big-picture.

And in terms of my priorities to enable that goal to really enable our creators, there's four of them. And so I will talk about them and they have to do with what I think are really some pretty fundamental seismic shifts that are occurring in our industry. And they're about creation, they're about quality consumption, they're about monetization, and they are all based fundamentally on our responsibility as a global platform. So let me -- let me sort of unpack what I mean by that. So just starting with the creation. So, creation of content, video content in particular, we are a platform that's of course all things video, is changing fundamentally and it's changing because we all have the power of a production studio in our pockets with our mobile phones. So we are all creators in some sense, especially, younger Gen Z creators. I think I saw a stat recently which said that's something on the order of three out of four of every Gen Z in the US uploaded a video online in the last year.

So that's a pretty profound change in terms of creation of content, the democratization of content creation, and so that's a big priority for us. It's mobile-first. A lot of it is short-form, YouTube Shorts, of course, we can talk more about. But for us, it's really multi-format, mobile-driven, participatory in nature, and so really making sure that we have the tools and capabilities from a creation standpoint. One of those capabilities, of course, that I'm very excited about that's also going to revolutionize creation of course is Generative AI, which we can talk more about. We are investing there in terms of creator tools and really enabling our creator ecosystem. So creation, mobile-driven creation, short-form, multi-format is a top priority. A lot of our focus is there. The second area that I'll call out, which is changing rapidly as well is consumption, quality consumption of video content. And for us, we are a platform that is about young users, 95% of Gen Z say that they use YouTube on a regular basis.

We want to maintain and super-serve our young users on our platform. And for them, that means community, that means fun, so making YouTube more interactive. I talked about participatory. You see all those changes in the App when you open up the mobile phone by really just bringing the platform to life. So that's on the quality consumption side. The second big thing on the quality consumption side, of course, is the living room. So, the living room screen is the largest and fastest-growing place where YouTube is consumed. So Connected TV, our investment there is a really big priority of mine, that's about bringing the full magic of YouTube, the interactivity of YouTube when viewers are consuming content, when they turn-on the television set, they want to watch YouTube and that means all forms of content. Everything from their favorite YouTube creators to blockbuster movies to football, which we can talk

about live sports what have you, and they all expect that in the YouTube app in the living room. So quality consumption is the second really big priority for us.

The third that I will call out of course is monetization. This amazing creator economy that exists on YouTube and that's what we want to really double down on. Monetization for us, first and foremost is driven by advertising, that will be a primary driver of our business. Over the last 12 months, across all of YouTube products, we generated revenues of nearly \$40 billion and that's across all YouTube products, and obviously, AVOD is a big part of that and the other part is a big part of that is our SVOD business. And so on the SVOD side, we have YouTube Premium, 80 million subscribers on YouTube Premium. We have YouTube TV, of course, five million plus subscribers on that, and so monetization is going to remain a priority, especially in our fast-growing products and surfaces like YouTube Shorts and Connected TV. And then the final piece, which I touched on in the beginning, none of this would be possible in terms of creation, quality consumption, monetization without our focus on responsibility. That it remains my top priority. And so that's living up to our responsibility on behalf of our two billion users that come to our platform on a regular basis and making sure that we are a safe platform for creators, for our partners, for our viewers. So those are -- those are what our teams are focused on and that's what I'm super-excited about investing in.

Michael Nathanson {BIO 2009061 <GO>}

Thanks, Neal. Over the past few quarters, YouTube's advertising growth has really slowed down, what's contributing to that weakness and what types of advertising verticals have you seen being hit the hardest?

Neal Mohan {BIO 17200493 <GO>}

So, we've talked about this over the course of the last 12 months and kind of the bigger sort of macroeconomic slowdown that's going on. We also mentioned, I think, Ruth mentioned this in our latest earnings, that we've seen a stabilization on that front. In terms of advertiser verticals, I think what I would say is, we've seen growth in things like Travel, Retail, which has been balanced by slowdown, and things like Finance and Media and Entertainment. Those are some of the verticals I'd call out, but that's basically what I'd say about that in addition to what Ruth talked about.

Michael Nathanson {BIO 2009061 <GO>}

So in your first communicate [ph] as CEO in March, you really put emphasis on creators, you've done that again here. I wanted to know what has YouTube done differently in this area versus prior strategy, right? Has there been a strategy shift in terms of embracing creators, anything you're doing differently now?

Neal Mohan {BIO 17200493 <GO>}

No. I think what I'd say there, Michael, is, again what I said at the beginning, which is creators really are our lifeblood. I mean everything that we do is about supporting

our creator ecosystem. We are the original creator economy. These creators are media moguls in their own right, not only are they incredibly creative talented people that have subscriber bases and followers that are millions, 10s of millions of fans all over the world, but they are incredible entrepreneurs too and so supporting their businesses is our top priority, giving them monetization capabilities but also giving them the creative tools that I talked about. And if we do that, that's what creates this incredibly vibrant sort of ecosystem that brings billions of fans to the platform. And then, of course, that's incredibly attractive that engaged reach if you will, is incredibly attractive to our advertisers.

Michael Nathanson {BIO 2009061 <GO>}

And on the same theme, has there been any change of consumption patterns over the years towards more creators? If you look at the composition of how time is spent, is there anything you could say about creators' impact on consumption?

Neal Mohan {BIO 17200493 <GO>}

The way I would -- I would think about that is, we really want to be a platform for all things video and so that, of course, means our YouTubers are creators on the platform, and for them, we want to cater to all of their needs. Some creators are incredible at 15-second YouTube Shorts. They generate 10s of millions of views on that type of content. Other creators have grown up on what we call long-forms, that traditional YouTube format, 15-minute VOD videos, what have you. There is other creators, gamers that will do hours long live stream, so everything from 15-second Shorts to 15-hour live streams is our focus, and by building those capabilities for our creators that's what brings their fans back to our platform. And so truly having a multi-format approach is really the way that we go after. And just to make that very concrete for you, Michael, as we -- just a couple of months ago, Meghan Trainor released a single, one of her kind of hit singles called Mother. She teased it with a 15second short, generated an enormous amount of buzz around that song. She premiered it through a live stream on YouTube, and then now it's racking up millions and millions of views. The music video is -- as a traditional sort of long-form video on the platform. So it's like that multi-format journey works incredibly well for creators because their fans get a chance to experience that creator across all of those different surfaces.

Michael Nathanson {BIO 2009061 <GO>}

So, you tease Shorts for us, which started back in August '21. We have couple of questions here. What engagement trends have been on Shorts and is it mostly mobile product at this point in time?

Neal Mohan {BIO 17200493 <GO>}

So, the way I think about Shorts again is that it's kind of one pillar in that overall sort of multi-format story that I described, but it's an important one, and it's one that really leans into all of those creation sort of paradigm shifts that I was describing at the top of this conversation. It is mobile-first in terms of creation and we are seeing

lots and lots of success among creators adopting short videos on YouTube. 80% growth in terms of creators that upload short content daily to our platform in the last year. So it's working as a creation tool, also you open up the app, you hit that plus button on YouTube and you can upload a short from your mobile phone very, very quickly that can rack up lots and lots of views. There is a creator that I was just with yesterday evening at our Brandcast event called Airrack. He is a huge creator with millions of subscribers. He does a lot of really innovative things on the YouTube short-form and he also produces longer form content, so truly multi-format, but his Shorts -- the Shorts that he uploads on average generate something like 22 million views every time he does it. He's incredibly talented, but he is also, as I said, a true entrepreneur.

So on the creation side, we're very happy with the progress we're seeing on YouTube Shorts and creators are obviously incentivized to do it because it's getting lots and lots of viewership. So, I think in Q4, the metric that we announced was 50 billion daily views of Shorts content on our platform, up from 30 billion earlier that year, and those views are generated by 1.5 billion monthly logged-in users on our platform, over five trillion views over the course of the last 12 months. And so lots of success on the viewer side. And then the third part of that sort of stool after creators and viewers that I'm also very excited about, although it's very early days is monetization. And so we're very focused on creating opportunities for our advertisers in this new format that we have to augment what they're doing on YouTube generally, and so those are direct response use cases. We have Shorts campaigns that are about direct response objectives, shopping objectives. We are investing now in brand use cases so that advertisers can get very efficient reach through the Shorts format. And so that's something that's early days but I'm excited about.

Michael Nathanson (BIO 2009061 <GO>)

Yeah. And the company has been very clear that it's early days, you can take some time, and one of the questions we get, I'm sure Ellen gets too is, do you think shortform video formats like Shorts can monetize at similar rates to other YouTube Ad products right? So anything about the monetization? One of your competitors talked about monetization triple-digit, but what's your take on the potential monetization of Shorts versus other products (inaudible).

Neal Mohan {BIO 17200493 <GO>}

Yeah, I mean, I think I would say something similar to what I said about creators on the platform, which is just like we want to provide that broad canvas to creators across all formats, whether it's, as I said, 15-second Shorts, 15-hour live streams, we recognize that that's what works for advertisers as well. Before my time at YouTube, as you mentioned in my bio, I spent a lot of time over, a couple of decades, building ad products for advertisers, for agency partners, and one of the things that I learned through that experience is that advertisers really want to be where their consumers are, and what YouTube gives them is, it gives them efficient reach, gives them an engaged audience because of this creator-fan connection that I'm describing. And that's ultimately what turns into ROI, regardless of whether they have brand objectives, direct response objectives, and that works across all formats. It works

across our traditional VOD formats, but it also works in Shorts, and so I view it as sort of a complete portfolio that we can offer to our advertisers. And that's why I'm so excited in terms of investing in these ad formats on the Shorts feed as well.

Michael Nathanson (BIO 2009061 <GO>)

Okay. You said earlier about the living room, and that's one of our favorite area to study, right, so it's YouTube Living Room is the fastest-growing surface and according to Nielsen, YouTube CTV consumption is now larger than Netflix in the most recent month within the US. And I think people don't really realize how large of a platform you have at Connected TV. What improvements have you made to the service to make it so popular? How you got it to be so sticky on CTV?

Neal Mohan {BIO 17200493 <GO>}

Yeah. No, I'm glad you brought that up. It really -- it goes back to kind of those four pillars I said at the beginning and in terms of quality consumption, Living Room is one of those things that's front and center because it's growing so fast. And by the way, that's not just a US phenomenon that's a global phenomenon in terms of the consumption we are seeing on living room screens, it just works for our viewers. And so we're investing very heavily in it. And really the way that I would describe that is, we're trying to bring that full magic of the YouTube product that people know and love on their mobile devices to the living room. So that means in our activity, that means all of our formats, that means our advertising products for brand for direct response. So to give you an example of that, we talked a lot about Shorts. Shorts is obviously a product that works incredibly well on your mobile device, but one of the big sleeper hits in terms of products we launched last year was Shorts in the living room and so we see lots of consumption of the Shorts format on living room screens.

And it goes back to what I said about what viewer expectations are when they turn on the TV. Young users, young viewers particularly when they turn on the TV, they are turning on YouTube, that's what TV is for them. And when they turn on YouTube, they want all of their content in one place and that means their favorite creators, Shorts creators, long-form creators, multi-format creators, but also their favorite movies, live sports, what have you, and that's the power of our presence on the living room, and that's really what powers those numbers that you mentioned. We are the number one streaming service in the US. I think just a couple of days ago Nielsen came out with their latest numbers. Not only did we maintain our number one position as a streaming service in the US, but we grew it while other streaming services were either flat or down. And so we're very excited about our growth in Connected TV and that's why we're investing so heavily in it. And I think 150 million users in the US in terms of our reach on Connected TV devices.

Michael Nathanson {BIO 2009061 <GO>}

It is before, but globally we have observed that CTV is more slower to develop, so you talk a bit, first, where you're in the US, where you have such acceleration, give us

a sense of the international opportunity for YouTube on Connected TV, what are you seeing in -- anything you offer internationally?

Neal Mohan {BIO 17200493 <GO>}

Yeah, I think that -- so a lot of the growth that we have seen here in the US over the last few years is what we are seeing now in international markets and it really is truly around the world and what I would say is that everything that we're doing to really superserve our viewers in terms of this quality consumption concept that I'm describing in the US is what we're doing globally. So we see the same trends in terms of viewers, especially younger viewers, Gen Z viewers, wanting to watch and engage with their favorite creators all over the world, whatever language, whatever region therein, but also other forms of content. We obviously, are invested in things like live sports here in the US with the NFL, but we've carried live sports in other parts of the world as well, and where does that get consumed, oftentimes it gets consumed on the largest screen in the house. And so those trends I think are carrying forward, not just in North America but in other parts of the world as well.

Michael Nathanson (BIO 2009061 <GO>)

So another -- let's go back to the key pillar discussion you had. We always tend to focus on the advertising opportunity on YouTube, which is so large, but can you talk a bit about the opportunities that you see in subscriptions?

Neal Mohan {BIO 17200493 <GO>}

Yeah. So I mean, we always start with advertising because that is a big part of our business and I think going to be the primary driver of our growth. As I mentioned, across all YouTube products, we generated nearly \$40 billion in revenue over the last 12 months, large part of that is advertising, but we're also investing in our SVOD business. I mentioned both of them, YouTube Music and Premium, YouTube TV. Starting with premium, the way I think about that is that it's really again a way for us to truly superserve our viewers that love the YouTube product by giving them this enhanced experience and that's why it's got over 80 million subscribers. So everything from ad-free to background to downloads, and it really, particularly caters of course to music lovers. And so that's why there is that close association between YouTube Premium and Music. And so we're the way that we think about that is really investing in the features and products that our users are expecting on those platforms. So to give you a couple examples of that. We have a standalone YouTube Music app. We obviously have the main app and we invest in products that are really geared towards music lovers. So we built something called Radio Builder a couple of months ago. That's the ability for you to be able to generate kind of like your own personalized radio station based on your favorite artists and musicians.

So we want to keep investing in things like that. Investing through things like machine-learning and artificial intelligence to make our recommendation so that discovery of music across our catalog of 100 million-plus songs is delightful and fun for our users. And so that's a big part of our premium experience. And we're also building features that are just kind of great features to have regardless of whether

you are listening to music or what you're doing as a Premium subscriber. So just a few weeks ago, we launched the ability to queue video, so that you can have your kind of your backlog to work through at your own leisure as a feature. We're investing in things like you know just more optimized enhance bit rates around things like 1080P, so that viewer experience is more crisp and high-quality, especially in sort of very fast motion detail type videos and things like that to really just delight our users. And so that's how we think about Premium, which is to really cater to our viewer needs. Of course, that's a new revenue stream for our creators as well and so and it gives us twin engine, so that nearly \$40 billion is driven by, of course, advertising revenues but also by subscriptions.

Michael Nathanson (BIO 2009061 <GO>)

So here's a question that's near and dear to our hearts here at MoffettNathanson. We are students of Pay-TV. That's how we built our firm and we're intrigued about your push into the virtual MVPD space, YouTube TV. I love the product. I'm a fan of the product and I am hoping to get it. We wonder what do you see as a potential long-term opportunity at YouTube TV?

Neal Mohan {BIO 17200493 <GO>}

Yeah, I mean, I think that it goes back to how we think about product development in general at YouTube and Google more broadly, but in this YouTube context, which is about building something that we think is going to be really awesome for our users, for our viewers, and that's how YouTube TV started, which was how do we reimagine the television viewing experience in this case, linear television viewing experience through the lens of YouTube. So that meant things like DVR and the cloud, unlimited DVR, recommendations -- personalized recommendations powered by our investment in things like machine-learning, innovation to the live sports experience in terms of things like key plays or in-game highlights or dynamic scoreboards and things like that. So really trying to bring that type of innovation to the viewer experience and that's remain sort of fundamentally the way that we think about YouTube TV. And so that's why we've continued to invest in that platform. It's got over five million subscribers now. So we're very happy with that. And an area where we brought a lot of that innovation that we developed on the YouTube TV side to the main app is in something called Primetime Channels, which we just launched in the US a few months ago, which is this kind of a-la-carte [ph] channel subscription service on the main app. And so again, it sort of shows how the YouTube TV strategy and kind of our core main app strategy fit together.

Michael Nathanson {BIO 2009061 <GO>}

Okay. Another question I always wanted to ask you is that we've studied the market for a while and believe that the opportunity is a skinnier bundle and the optimal price is a skinnier bundle led by sports and news under \$50 a month. So given the leaking of more-and-more premium content to a program as an [ph] own service is, and you've seen the content leaked that's good content, what do you think the evolution of YouTube TV look like within this environment?

Neal Mohan {BIO 17200493 <GO>}

Yeah, what I'd say about that is we are really happy with our channel lineup. It has grown over the years and a lot of that has been in response to the direct feedback we get from our customers on YouTube TV. They tell us what they think about our features regularly. They love our features. This views feature that I was describing in terms of key players, et cetera, just won a Technical Emmy. So we're very focused on obviously product feedback that we get from users, but we also get content feedback. And so our content lineup that has grown over the years is really driven by a lot of that feedback that we get from our subscribers.

Michael Nathanson (BIO 2009061 <GO>)

Okay. I get a lot of content feedback by the way.

Neal Mohan {BIO 17200493 <GO>}

All right. Keep it coming.

Michael Nathanson (BIO 2009061 <GO>)

Okay. So you mentioned Sunday Ticket, one of my favorite topics as well. YouTube made a very big news in our world by agreeing to carry Sunday Ticket, what do you see is the opportunity here (inaudible) a product that was mostly limited to Satellite TV?

Neal Mohan {BIO 17200493 <GO>}

Yeah, I think that there is a few things that I'll say and I will start by just kind of describing it from a YouTube standpoint why I think it really makes sense for us, which is, of course, it will allow us to really, again back to super-serving our users our YouTube TV subscribers as -- and will help us grow that business. I mentioned Primetime Channel, so giving users choice in terms of how they can sign-up for Sunday Ticket either on the YouTube TV side or a-la-carte through prime-time channels, so that's kind of another piece. And then the third piece, of course, which I think I am very excited about, but I know the NFL is also very excited about is bringing the magic of YouTube to that football experience and that's about engaging our creators. And so that's about allowing them to produce content that is exclusive in terms of NFL content, behind-the-scenes access, you saw a lot of that actually at the draft that just happened a couple of weeks ago. There were lots of YouTubers there and the YouTubers were a huge hit, not just amongst all the people at the draft, but by the athletes themselves that were getting drafted, many of whom grew up on YouTube, right? And so that was -- that's some of the excitement that we want to bring. And of course, so across all of those three pieces, YouTube TV, Primetime Channels, that's about growing our subscription business. The creator piece is, of course, is about growing our advertising business, and so that's what we see together.

But the other thing that I'll say about that, that I'm very excited about, Michael, is just the innovation that I think will be able to bring to the fan experience and so that means you can get Sunday Ticket anywhere, so not just through YouTube TV, but if you want at a-la-carte on the main app you can get it through Primetime Channels. You can get it without a dish in your house. You can literally just get it with a couple of taps on your phone, watch it on your television screen, so that accessibility that consumer choice is a big part of the value that we want to bring to the table. The second is just innovation. So again, I mentioned a lot of the features that we are doing for sports lovers on YouTube TV, want to bring them to the main app. Just a couple of weeks ago during March Madness, we launched our multi-view feature, which is the ability to watch multiple games at once. It was a feature that was just overrun with customer support request asking for that feature as quickly as possible because we were doing a gradual rollout. So we sped it up to respond to that feedback and I'm super-excited about bringing that to the NFL. And that's the feature that works regardless of device, regardless of set-top television, what have you, because we do it on the software side. So we're very, very excited about innovation. And then the third thing which our fans on YouTube, especially our younger fans is, what we're going to be able to do with creators and so -- and by the way, all of these things, accessibility, product innovation, creator integrations are things that not only are we excited about but the NFL is also very excited about.

Michael Nathanson (BIO 2009061 <GO>)

They're so excited that Roger Goodell came to your (inaudible) yesterday, is the only upfront he visited this week, which leads me to my next question. How should we think about YouTube's appetite to add other premium sports rights going forward including an NBA (inaudible) package, which is the next big league that's being negotiated?

Neal Mohan {BIO 17200493 <GO>}

So the first thing I'll say is right now I am very focused on making sure that the Sunday Ticket experience is a great one for our fans, our partners, of course, our creators and so that's the top priority. The other thing that I will say there is that, there's obviously lots of attention around Sunday Ticket, but YouTube has been a big destination for sports fans all over the world for a very, very long-time, especially we are one of the largest sports platform, especially for Gen Z viewers all over the world. We've carried live sports from soccer matches to other forms of sports all over the world for years, sports leagues, federations, teams, athletes have all had channels on our platform for many years. The NFL, of course, has a very big channel. You mentioned the NBA, they're one of our closest partners and they have an incredibly successful channel on YouTube. We distribute NBA TV, as you know, we carry League Pass both on YouTube TV side, as well as on the Primetime Channel side, and all the live games, of course, are on YouTube TV through our partners as well. And so that has already -- that already has been a long-term sort of flourishing relationship on our platform. In terms of rights around content, we're very focused on the NFL and Sunday Ticket and we look at everything on an individual basis to make sure it makes sense for our viewers, for our business, and so that's how we would approach anything.

Michael Nathanson (BIO 2009061 <GO>)

As more as cord-cutting accelerates and leagues look for younger viewers this is going be a constant question that you will get going-forward, because there is a clear need from the leagues to find a partner like YouTube to solve their long-term problems on aging demographics, that's just an editorial you don't have to comment, if you don't want to, but, okay, let's pivot to gaming. Again something that you talked about on your first communicate with all of us, we focus a lot on Amazon and Twitch, what they have done on Twitch. Can you talk about your plans to increase traction engagement among the gaming community?

Neal Mohan {BIO 17200493 <GO>}

Yeah, so I talked about things like music earlier, Michael, that's one of the kind of long-standing big verticals on our platform. The other one that sort of comparable is gaming. Gaming has been a part of YouTube's history from the very, very early days of YouTube, well over a decade ago. And so it's a big part of our user's experience on the platform on a regular basis, some of our biggest creators, most successful creators are gamers on our platform. And for us, gaming means not just livestreaming, that of course is a big part of the gaming experience on our platform, but also VOD consumption that is also where a lot of gaming content gets consumed across all titles, not just what's the hot titled today but really over the entire core business and so that's what I would say at a high-level about gaming. The other thing that I would say that's really interesting about gaming creators on our platform and gaming viewers is that it's where a lot of the product innovation actually happens as well. Some of the earliest adopters of our features tend to be gamers and so we talked a lot about our AVOD business and our SVOD business.

Another area that we invest in is alternative monetization solutions for our creators, things like fan funding, channel memberships, Super Chat, Super Stickers, the ability for creators to make money through live streams. Well, a lot of that technology and a lot of those products got seeded in the gaming community because there is this notion of gamers and viewers really supporting each other, gamer supporting other gamers, so the ability to gift a channel membership to a creator's channel was developed with gamers in mind. And once we build it for gamers and we want to make it available to the broader creator community and viewer committee, but a lot of that seed of innovation actually happens on -- amongst our gaming community. So it remains something that's very important to me, important to YouTube that we're going to continue to invest in.

Michael Nathanson (BIO 2009061 <GO>)

Okay. You touched on this earlier with the NFL, your subscription opportunity, but what does this mean taking (inaudible) in building out Primetime Channel space, right? So can you talk a bit about maybe using that as a beacon to bring people to your new launch of channels?

Neal Mohan {BIO 17200493 <GO>}

Yeah, so as I mentioned, Sunday Ticket will be available to YouTube TV subscribers, but it will also be available on this new product called Primetime Channels in an a-lacarte fashion. So it will be an important part of our lineups in Primetime channels, but we've had Primetime channels now for a few months, it's really early days. We have, I think over 40 channels now that our viewers are subscribing to and so Sunday Ticket will be part of that line-up, but we're going to continue to grow that portfolio of channels there. And again, our lens by which we look at all of these new products and businesses is through the user Innovation lens, and so to give you -- so going back to some of my core themes, in this case around quality consumption, the expectation is that when a user comes to YouTube, they want all of their video content as a one-stop shop on our platform. And so, what does that mean, it means my favorite creators, of course, but now it might mean the channels I subscribe to, whether it's Sunday Ticket, whether it's Paramount Plus, what have you, you get that there. And by the way when you do that the recommendations for shows or videos are now just going to happen seamlessly in that recommendation fee that you know and love on YouTube already. So we want to bring -- we don't want to just create a product for the sake of creating a product. We want to really bring user innovation to it. That's what I think is our differentiator. And Primetime channels, in the way that Discovery is going to work, integrated with your core YouTube experiences, what our users expect, and what we're going to deliver to that.

Michael Nathanson (BIO 2009061 <GO>)

Because, again one of the major frustrations, if you ask anyone in this room or any executives who have spoken in the past couple days is that lack of content discovery, recommendation engines, and streaming world is incredibly frustrating for everyone that you can't find the content you want to and you see that as a major opportunity given your Search credentials and giving YouTube?

Neal Mohan {BIO 17200493 <GO>}

Yeah. I mean, so just from all of our own experiences on YouTube here, a lot of that quality engagement comes from the quality of our recommendations are personalized recommendations. So when you open up the app, the feed of course that you see is personalized for all of you based on your interest. And so in that sense, we are a place where viewers come to consume video. We are kind of our own unique thing, we are a video consumption platform, we are not a social network, we are not sort of traditional media, and a big part of that is discovery of our content that's personalized. And so that's the type of innovation that happens kind of on the core YouTube side that we're going to bring to something like Primetime channels. So when you subscribe to your channel, your expectation should be that you don't have to think to go and figure out sort of where that show is. It should just show up in your recommendation feed on the home feed after you're done watching a video on the watch page, and so that's an example of how we aim to tackle this discovery problem in a kind of one-stop shop type of experience on the YouTube app.

Michael Nathanson {BIO 2009061 <GO>}

And password management, if you sit in my house and (inaudible) we're trying to figure out what's the pattern of that, so to unify passwords management using your Google login to basically do it would be really efficient as well.

Neal Mohan {BIO 17200493 <GO>}

Yeah, I mean, as I said, the expectation is that, especially among young viewers, when they turn on the TV and they are turning on YouTube, they want all their content there and that's a vision.

Michael Nathanson (BIO 2009061 <GO>)

Okay. Let me ask you, some of that Philip [ph] has been saying on the calls lately, which is, he is looking to bring more shopping features to YouTube. Can you give us some examples of what you're doing on this front and how that drive grow?

Neal Mohan {BIO 17200493 <GO>}

Yeah, so shopping is an area that we have been investing in, as Philip's talked about, others have talked about for the last few years, and again it goes back to what I said at the very beginning which is, it all starts with our creators again. And so a big opportunity for our creators to be able to connect with their fans and also obviously to grow their businesses is shopping services and products. You see that already on YouTube. I view it as a way to just kind of the augment that sort of connection that exists between creators and viewers already on the platform. So much of our verticals, whether it's fashion and beauty, whether it's electronics, whether it's what have you, really across the spectrum, oftentimes it's creators talking about their favorite products, talking about recommendations in terms of their favorite services, where they went on vacation, what have you. And that is a shopping opportunity from the standpoint of creators being able to offer that to their fans in an authentic way and -- but it's also an opportunity for their fans. Their fans want that. They want the ability to watch something that their favorite creators are talking about and then be able to transact, to be able to purchase that product, whether it's a hairbrush or top or what have you. And so that's again sort of the product vision behind why we're investing in shopping to connect the creators with their fans, not just in terms of viewing content, but now this kind of shopping commerce experience on our platform.

And the way I think about it is just like when you go to a mall in the real world, you're not going because you have like the shopping list of stuff that you want to buy, it's part of it is in entertainment community experience, you are going with your friends, your family and along the way you might buy a pair of jeans. And so that's sort of the way the journey lives on YouTube and it's just kind of, I feel like as a core part of the YouTube experience that we should build for our creators and our fans. And so we are investing in it and of course, that's a great opportunity I think for our retailers, for our brand partners. You see that, so you've probably seen a lot of that in terms of the Shopping Cards that now show up below the videos on the Watch Page on YouTube, the carousels that exist there, their Ad formats, the shopping cards are also organic. We had -- we just had Coachella a few weeks ago. A big part of that Coachella

experience, of course, were the live streams like the unprecedented number of live streams that we did from all the stages that made it a truly global phenomenon for music lovers. But we also had a lot of commerce opportunities that were merch from your favorite artists, whether it's Bad Bunny or Blackpink or what have you, were available on the YouTube app right then and there and that stuff kind of sold incredibly well because that's what the fans of those artists wanted. And so that's the way that we think about the shopping opportunity. What I will say is that it's really early days and we are investing in it, but we are doing it because we think it really serves all of these constituents over the long-term.

Michael Nathanson {BIO 2009061 <GO>}

So, my last question is one that only can be -- is really a topic of 2023. Can you talk about -- you've been using machine-learning AI for many years, so it's nothing new for the people at Alphabet. But what could generative AI do at scale to contribute either creativity on a platform or engage in YouTube. So when you think about the AI opportunity for you, how would you quantify it?

Neal Mohan {BIO 17200493 <GO>}

Yeah, so, first of all, Michael, I'm glad you said that we have been thinking about it, investing in it for a long-time. If you think about, again the YouTube product, I talked so much here about personalization and recommendations and discovery. Well, what is that, that's investment in artificial intelligence and machine-learning, right? We build these classifiers that allow us to rank videos in your home feed, in our search results. So we have been investing in artificial intelligence in terms of a delightful user experience, but also in terms of living up to our responsibility. A lot of the work that we do to detect (inaudible) videos, et cetera, is based on our investment in artificial intelligence and machine-learning. So we've been doing that for years and we intend to continue to do that. There's obviously been lots of conversation around Generative AI and capabilities there. I do think that if you think about our creator ecosystem, there is real opportunities there for us, for our advertisers, there is opportunities as well. And so sort of to take each of those in turn and I talked about some of this in my -- in my Brandcast remarks last night.

You can imagine a whole set of creator tools. So when you open up the app, and you hit that plus button at the bottom of the app and you are ready to create a short or another form of video from your mobile phone, well, you should be able to do things like, change your hair color, change your outfit, maybe change the background, maybe you're in a forest, maybe you're in a desert. And so a lot of that will be powered by things like Generative AI. So you can imagine that those types of use cases, sort of enhancing the creativity, making the workflow more efficient to really just superpower our creators and so that's one area that I am very excited about. The other one, of course, is having those same sort of AI investments really pay off for our advertisers. So, obviously, things like targeting in optimization, measurement just based on our investments in AI over the last several years, but also we talked a lot about multi-format and advertisers wanting to be across all of these formats, well, AI will be able to transform your creative from a horizontal creative that's suitable for VOD videos to one that's vertically oriented, for short-form videos,

both cropped in terms of kind of the canvas, but also time and that should happen seamlessly and efficiently for advertisers to maximize their ROI. And so creator side, advertiser side, there'll be newer features as well that will be powered by AI that I'm very excited about.

Michael Nathanson (BIO 2009061 <GO>)

Well, Neal, thank you for coming out today, really appreciate it. See you next year here.

Neal Mohan {BIO 17200493 <GO>}

Thank you very much. I appreciate it.

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