

Operator

Good afternoon. My name is Chris, and I'll be your conference operator today. At this time, I would like to welcome everyone to the Facebook Third Quarter 2016 Earnings Call. All lines have been placed on mute to prevent any background noise. After the speakers' remarks, there will be a question-and-answer session. This call will be recorded.

Thank you very much. Ms. Deborah Crawford, Facebook's Vice President of Investor Relations, you may begin.

Deborah Crawford - Facebook, Inc.

Thank you. Good afternoon and welcome to Facebook's third quarter 2016 earnings conference call. Joining me today to discuss our results are Mark Zuckerberg, CEO; Sheryl Sandberg, COO; and Dave Wehner, CFO.

Before we get started, I would like to take this opportunity to remind you that our remarks today will include forward-looking statements. Actual results may differ materially from those contemplated by these forward-looking statements. Factors that could cause these results to differ materially are set forth in today's press release and in our quarterly report on Form 10-Q filed with the SEC. Any forward-looking statements that we make on this call are based on assumptions as of today, and we undertake no obligation to update these statements as a result of new information or future events.

During this call, we may present both GAAP and non-GAAP financial measures. A reconciliation of GAAP to non-GAAP measures is included in today's earnings press release. The press release and an accompanying investor presentation are available on our website at investor.fb.com.

And now, I'd like to turn the call over to Mark.

Mark Elliot Zuckerberg - Facebook, Inc.

Thanks, Deborah, and thanks, everyone, for joining today.

We had another good quarter. Our community continues to grow around the world. We're pleased to see nearly 1.8 billion people now use Facebook every month and nearly 1.2 billion people use it every day. It's also great to see the continued growth and strength of engagement on our platform, and our ads growth is growing at a healthy rate as well. Total revenue grew by 56% year over year to \$7 billion, and advertising revenue was up 59% to \$6.8 billion.

I want to start by talking about our work around putting video first across our apps. People are creating and sharing more video, and we think it's pretty clear that video is only going to become more important. So that's why we're prioritizing putting video first across our family of apps and taking steps to make it even easier for people to express themselves in richer ways.

One way we're putting video first is through live video on Facebook. Since May, the number of people going live at any given moment has grown by four times. And people have gone live from all seven continents and also from outer space.

Another recent example is Instagram Stories, which we launched in August. Instagram Stories is a lightweight way for people to share moments of their day through photos and videos that appear in a slide show format and disappear after 24 hours. Stories now has more than 100 million daily actives. We also improved the Explore tab in Instagram to include more videos and stories, and it has 100 million daily actives now as well.

In addition to making it easy to share video, we also want to make it easier to capture video. In most social apps today, a text box is still the default way we share. Soon, we believe a camera will be the main way that we share. We're already testing this in our main Facebook app with a version that has a camera, directly just one swipe away from News Feed, with creative effects for your photos and videos. And in Messenger, we're testing new camera and video features. We'll be experimenting with even more visual messaging tools over the next few months as well.

So those are a few examples of some of the things that we're doing to put video first across our family of apps. Now, I'll give you an update on our progress over our 3, 5, and 10-year time horizon.

Over the next 3 years, we're focusing on making our core services more useful and engaging. The 2016 Summer Olympics were huge on Facebook, with more than 270 million people creating 1.5 billion interactions. Facebook helped bring the world together. And athletes, fans, and media went live throughout the games, including athletes who went live from the Olympic Village, and Michael Phelps, who even announced his retirement on our platform.

This election season has also driven a lot of conversation, including on Facebook, where we've made it easier for voters and candidates to communicate with each other. In the first nine months of this year, 109 million people on Facebook in the U.S. generated over 5.3 billion posts, comments, and likes and shares related to the election. During the primaries

and in September, we also added a Register to Vote link at the top of our Facebook app that we estimate helped more than 2 million people register to vote, some who were registering for the first time. Facebook really is the new town hall, and we're proud of the role that we've played in enabling dialogue and increasing civic engagement. That's the 3-year update.

Over the next 5 years, we're going to keep building ecosystems around products that a lot of people already use every day. Instagram, Messenger, and WhatsApp each have large communities, but we have a lot more work to do on all of them. I think about our progress here in three phases. The first phase is building a great consumer experience and getting it to scale. The second phase is about enabling people to organically interact with businesses. And then the third phase is to give businesses tools to reach more people, and that's where we build our business.

Right now, Instagram has moved into that third phase. Instagram has more than 500 million monthly actives and more than 300 million daily actives. We're making good progress helping businesses and marketers use Instagram in new ways, and Sheryl will talk more about that in a few minutes.

Messenger is early in the second phase. We're helping businesses and consumers increasingly interact in richer ways. Today there are 33,000 bots live on Messenger. We also launched Messenger Lite, which is designed to make messaging fast and easy with a wide variety of Android phones and for people who are on slower networks as well.

A lot of businesses use WhatsApp already, but we're going to really start working on the second phase in the next year. Right now, we're testing new camera features and we're continuing to keep features fast and reliable on multiple devices and every network condition.

Finally, we're starting to build communities around completely new apps. This quarter, we launched Workplace to help make organizations more connected and productive. Workplace is a communications platform that uses features that people know, like News Feed, groups, and messages to help them collaborate and share at work the same way that they do everywhere else. Already, more than 1,000 organizations are using Workplace, including Starbucks, Royal Bank of Scotland, and Danone, and we're adding more all the time.

We're also getting new services to scale in the core app. In October, we also launched the Marketplace tab to help people discover, buy, and sell things with people in their community. While we just launched Marketplace, many millions of people have been buying and selling things in Facebook for-sale

groups for a while, and we think this is going to be an important tool going forward.

Over the next 10 years, we're going to continue to invest in the platforms and technologies that will connect more people and more places and allow everyone in the world to have a voice. We focused our long-term innovation roadmap around three areas: connectivity initiatives that bring more people online; artificial intelligence; and virtual and augmented reality.

On connectivity, through our efforts with internet.org, we've connected 40 million people, based on our best estimate. And we're making good progress with our Express Wifi program, which empowers entrepreneurs to build a business by providing their community with access to the Internet.

On artificial intelligence, we're starting to see the impact that AI can have on enhancing people's experiences on Facebook and showing them more of what they care about. More than 40 teams at Facebook and more than 25% of our engineers are already using AI to power the products and services they build. We've made changes and improvements to our AI in order to filter out misleading clickbait stories from News Feed. And we're using AI to help find terrorist propaganda on Facebook. It's still early, but we think that AI will help improve the quality of what people see and can share on our platform.

We also took some important steps forward on virtual reality to help people experience the world in richer and more immersive ways. At Oculus Connect, we announced that touch controllers for Rift will ship in early December with 35 games and experiences exclusively built for touch. And since we believe the next phase of VR is great software experiences, we're investing another \$250 million in virtual reality content on top of the money that we've already invested.

So this was a very busy third quarter, and 2016 is shaping up to be a year of important progress for Facebook. Our business is performing well. And while I'm happy about what we've accomplished, we're really just getting started. We want to continue to invest aggressively to accomplish our goals, which is why we're hiring, especially in engineering, which is going to be one of our top priorities going into 2017, and Dave will say more about this in his remarks.

Everything we do is about opening the world to everyone and helping more people to connect and share. So I want to thank our entire community, all of our teams, our partners, and our shareholders for being a part of this journey with us.

Now, here's Sheryl.

Sheryl K. Sandberg - Facebook, Inc.

Thanks, Mark, and hi, everyone.

We had a great third quarter. Q3 ad revenue grew 59%. Mobile ad revenue reached \$5.7 billion, up 70% year-over-year, and was approximately 84% of total ad revenue. Our growth was broad-based across all regions, marketer segments, and verticals. In Q3, we announced that we have over 4 million active advertisers on Facebook and over 500,000 active advertisers on Instagram. The number of advertisers on both platforms continues to grow quickly, and we're pleased to see more and more of them using the full range of our ad products.

We continue to focus on our three priorities: capitalizing on the shift to mobile; growing the number of marketers using our ad products; and making our ads more relevant and effective.

First, capitalizing on the shift to mobile, people have shifted to mobile, and we remain focused on helping businesses catch up. We know that marketing shifts take time. The first TV ads showed people standing in front of microphones reading their radio ads. Similarly, many of the first mobile video ads were TV ads dropped into mobile. Ads optimized for each platform often perform better, so marketers are increasingly tailoring their creative for mobile.

We're excited to see the world's largest advertisers realize that the small screen is big. In September, P&G Chief Brand Officer, Marc Pritchard, GM CEO, Mary Barra, and I addressed the Adweek audience together. Marc described how P&G is creating mobile video ads designed to grab attention in the first few seconds. He shared the example of Tide. In a typical TV ad, they start with a clean dress or shirt, show it getting stained, and then cleaned it with Tide. On mobile, they need to communicate the product's value more quickly, so they start by showing Tide cleaning a stained garment.

Mary shared GM's success with Facebook mobile video ads. In Q3, GM subsidiary, Holden, used carousel ads with video to maximize its sponsorship of Australia's premier rugby tournament. Holden created a video series about their support of the youth rugby. The ads generated an 8-point lift in brand favorability for the overall audience and a 15-point lift amongst their target audience of women over 35.

For many small businesses, the shift to mobile means leveraging video for the very first time. Rather than needing a camera crew and production budget, anyone with a smartphone can shoot a video and share it on

Facebook. In the past month alone, over 3 million small businesses have posted a video on Facebook, including organic posts and ads.

Our second priority is growing the number of marketers using our ad products. We continue to focus on our advertiser pipeline. In Q2, we announced that over 60 million businesses use our free Facebook Pages product each month. And we introduced the Instagram equivalent, Business Profiles, which are being used by 1.5 million businesses.

On past calls, I talked about product simplification as a driver of advertiser growth on Facebook. Now with the launch of Promoted Posts, we are seeing that on Instagram too. Like Boosted Posts on Facebook, Promoted Posts on Instagram are an easy way to start advertising, and we're pleased with the adoption.

Over 85% of business pages are active on mobile, so we're making it easier for advertisers to manage campaigns from their phones. In Q3, we added a feature that shows marketers a preview of a potential ad in News Feed, just as their customers would see it. They can then run the ad with just a few taps from their mobile device.

Making it easy to advertise from a mobile phone is especially important in emerging markets. For businesses operating in areas with weak network connections, we continue to build advertising tools into Facebook Lite, our low bandwidth app, and are making more of them available offline.

Our third priority is making our ads more relevant and effective. Our goal is to be the number one driver of growth for our clients. In Q3, we introduced tools to help businesses find people around the world who look like their current customers and target the ones most likely to convert. For example, SA Company, an outdoor gear and apparel business started by a young man out of his parents' home, used international Lookalike targeting to reach customers in 32 countries and increase sales by 37%.

We're focused on driving purchases online and in stores. In Q2, we launched Estimated Store Visits, which show advertisers how many people came to their store after seeing an ad. And this quarter, we made it possible for advertisers to optimize campaigns for in-store visits. We also expanded Dynamic Ads, a proven way to drive online sales for in-store retail objectives. Businesses can use Dynamic Ads for Retail to show people the products available at their closest location in real time and reach people likely to visit their stores.

To prove the value we're driving for our partners, we continue to invest in measurements. This quarter we announced new third-party partnerships

with Nielsen DataLogix, Visual IQ, and MarketShare to help our clients measure how Facebook ads drive business results.

We're pleased with the value we're driving for our partners and remain focused on helping them make the shift to mobile. With only a small fraction of businesses on Facebook and Instagram advertising, we have a lot of opportunity in front of us. We also have a lot of hard work to do to help our partners around the world use mobile to drive their businesses.

I want to thank our clients around the world for their partnership and congratulate our global teams on the results of their continued focus and dedication.

Thanks, and now here's Dave.

David M. Wehner - Facebook, Inc.

Thanks, Sheryl, and good afternoon, everyone.

Q3 was another strong quarter for Facebook. Total revenue grew 56% and exceeded \$7 billion for the first time. And we delivered \$2.4 billion in GAAP net income, up 166%. We saw healthy growth and engagement in our community as well as broad-based strength in our mobile ads business.

Let's start with our community metrics. In September, 1.18 billion people used Facebook on an average day, up 172 million or 17% compared to last year. This daily number represents 66% of the 1.79 billion people that used Facebook in the month of September. Mobile continues to drive our growth, with 1.09 billion people accessing Facebook on mobile on an average day in September, up approximately 197 million or 22% compared to last year.

Turning now to the financials, my comments today will focus on our GAAP financial metrics, and all of our comparisons are on a year-over-year basis unless otherwise noted. A reconciliation of our GAAP to non-GAAP financial metrics is included in our press release and earnings slides.

Q3 total revenue was approximately \$7 billion, up 56%. Q3 ad revenue was \$6.8 billion, up 59%. Exchange rates did not impact our overall growth this quarter, as headwinds in certain currencies were offset by tailwinds in others. Asia-Pacific and North America were our fastest growing regions, with ad revenue growth rates of 64% and 62% respectively. Ad revenue grew at a rate of 50% or more in all regions in Q3. Mobile ad revenue was \$5.7 billion, up 70% and representing approximately 84% of total ad revenue.

On prior calls, we discussed the supply and demand factors that drive our mobile ads business. As Sheryl noted earlier, advertiser demand remained strong in Q3 across all geographies, verticals, and marketer segments. We also benefited from growth in users, time spent, and ad loads. It is worth noting that desktop ad revenue grew 18%, which is higher than growth rates in recent quarters, and was aided by our efforts to limit the impact of ad blockers on advertising served via web browsers.

Our price/volume trends were similar to those we reported last quarter. The average price per ad increased 6% in Q3, while total ad impressions increased 50%. The reported increase in price continues to be driven by the ongoing mix shift towards mobile, where we show only higher priced feed ads. Impression growth was primarily driven by mobile feed ads on Facebook and Instagram.

Payments and other fees revenue was \$195 million, down 3%. Payments and other fees revenue is largely generated from games played on personal computers, which has declined as people spend less time on their PCs.

Q3 total expenses were \$3.9 billion, up 28%. This includes \$839 million of share-based compensation expenses and related payroll taxes as well as \$195 million of amortization of intangible assets.

In Q3, we hired over 1,200 people and ended the quarter with approximately 15,700 employees, up 31% compared to last year. We remain committed to investing aggressively in hiring, including expanding our technical and recruiting teams globally.

Q3 operating income was \$3.1 billion, representing a 45% margin. Our tax rate was 25%. GAAP net income was \$2.4 billion or \$0.82 per share.

Q3 capital expenditures were \$1.1 billion. Year to date through September, capital expenditures were \$3.2 billion, up 76%, driven by investments in data centers, servers, office buildings, and network infrastructure. In addition to our new data center projects in Texas and Ireland, we recently broke ground on our seventh data center facility in New Mexico, which we anticipate will come online in late 2018.

We generated approximately \$2.5 billion of free cash flow and ended the quarter with \$26.1 billion in cash and investments.

Turning now to the outlook for the remainder of 2016, first, some color on revenue. We continue to expect that revenue growth rates will decline in Q4 as we lap a strong fourth quarter in 2015. We also continue to expect that our total payments and other fees revenue in Q4 will be lower than it was in the fourth quarter of last year.

Turning now to the 2016 expense outlook, based on our year-to-date results and our updated view of the remainder of the year, we are adjusting our expense guidance ranges. We now expect that full-year 2016 GAAP expense growth will be at the lower end of our prior range of 30% to 35%. We expect full-year 2016 amortization expenses to be approximately \$700 million to \$800 million and that full-year 2016 share-based compensation expenses to be approximately \$3.2 billion to \$3.3 billion. Accordingly, we anticipate that our total non-GAAP expenses, which exclude those share-based compensation and amortization expenses, will grow in the range of 40% to 45%, down from our prior range of 45% to 50%.

We anticipate full-year capital expenditures to be approximately \$4.5 billion, as we invest aggressively to support the rapid growth of the business. We expect that our Q4 and full-year 2016 tax rates will be in line with the year-to-date tax rates.

I also wanted to provide some brief comments on 2017. First on revenue, as I mentioned last quarter, we continue to expect that ad load will play a less significant factor driving revenue growth after mid-2017. Over the past few years, we have averaged about 50% revenue growth in advertising. Ad load has been one of the three primary factors fueling that growth. With a much smaller contribution from this important factor going forward, we expect to see ad revenue growth rates come down meaningfully.

Secondly on expenses, though it is premature to provide specific expense guidance, as Mark mentioned, we anticipate 2017 will be an aggressive investment year. Adding top engineering talent remains one of our key investment priorities as we continue to execute on our 3, 5, and 10-year roadmap. We will continue to invest in our ability to recruit top technology talent, both in the Bay Area and beyond. In addition, we expect to grow capital expenditures substantially, as we continue to fund the ongoing data center expansion effort that we have underway.

Finally, I wanted to share some plans on the use of cash starting in 2017. Beginning in January, we intend to fund withholding taxes due on employee equity awards via net share settlement rather than our current approach of requiring employees to sell our shares of common stock to cover taxes upon vesting of such awards. We expect this change will increase our cash outflows and correspondingly result in less dilution. If we had used this approach in 2016, our cash outflows would have increased by approximately \$1.8 billion in the year through September.

To wrap things up, Q3 was another strong quarter for Facebook. Our results reflected the continued growth in engagement of our community around the world and the strength of our mobile ads business.

With that, operator, let's open up the call for questions.

Question-and-Answer Session

Operator

Thank you. Your first question comes from the line of Brian Nowak with Morgan Stanley. Your line is open.

Brian Nowak - Morgan Stanley & Co. LLC

Thanks for taking my questions, I have two. The first one, the past couple quarters you've given us a metric on the growth in time spent per user across the three big platforms. Any update at all on that around this quarter and what you're seeing?

And then the second one, just on the Instagram Stories 100 million DAUs, any help at all on what the demographics or the age of those people look like? And how do you think about engagement of those users? Thanks.

David M. Wehner - Facebook, Inc.

I can take the first one, Brian, on the time spent metric. We're pleased with the growth in time spent per DAU that we're seeing across the Facebook family of apps. And that includes the Facebook mobile app, where we saw good year-over-year growth in time spent per DAU. Their video is making a big contribution to time spent growth, but we are not providing a specific stat on time spent growth on an ongoing basis.

Sheryl K. Sandberg - Facebook, Inc.

We're also not providing a specific breakdown of the DAU growth in Instagram Stories, but we're really excited about the engagement with the product and how it's growing across the board.

Operator

The next question is from Eric Sheridan with UBS. Your line is open.

Eric J. Sheridan - UBS Securities LLC

Thanks for taking the questions, maybe one for Sheryl and one for Dave. Sheryl, on local business and small business, as you continue to see success there, I wondered if we could get increased color on what you're seeing from an adoption curve on business pages. What are people looking for in terms of measurement attribution? What's Facebook delivering for those advertisers? Any color there would be very, very helpful.

And then, Dave, as we try to digest some of the comments you made about ad load and revenue as we exit 2016, go to 2017, how should we also be thinking about the mix of ad units as you continue to see more e-commerce and video in the platform? And how should we be thinking about the pricing of ad units as that mix changes over time? Thanks so much, guys.

Sheryl K. Sandberg - Facebook, Inc.

On local, we think this is a really big opportunity, and you see this in the large base of existing businesses using Facebook and Instagram increasingly. There are 60 million small business pages up on Facebook and 1.5 million Instagram business profiles, which are the similar, the equivalent for Instagram.

And the reason we think people are so active is it's just really expensive and hard to have your own mobile site or your own even webpage. Thirty-five percent of small businesses in the United States, which is the most developed market in many cases, don't even have a webpage of any kind. And it's cheaper and easier to build a webpage than it is to build a mobile app and get distribution or downloads.

And so what's happening is that people are really using the Facebook business pages and increasingly the Instagram business profile as their mobile presence, and we think that's what's working. And then we're working hard to build products that work, in-store visits, and then to use simplified ad products that convert them over to advertising.

David M. Wehner - Facebook, Inc.

Eric, it's Dave. Just really reiterating what I said last quarter about our expectations on ad load going into mid-2017, it's been one of the key factors in terms of driving growth along with time spent – user growth and time spent growth and advertiser demand. So we continue to see good opportunities to grow time spent, continue to see good opportunities to grow users, and we continue to see good opportunities to grow advertiser demand.

On that latter point, really the mix of ad units is part of what we're doing I think really well. We're developing a number of new ad products as well as enhancing the ad products that we have out in the market today. So we're taking what is a great mobile ad product on Facebook and Instagram and making it even better. And I think the investments that we're doing there will continue to enable us to drive advertiser demand. So those key factors will continue, we believe, to drive growth next year. So what I'm specifically talking about is ad load and our anticipation that it's going to be a less significant factor as we get into mid-2017.

Operator

The next question is from Anthony DiClemente with Nomura. Your line is open.

Anthony DiClemente - Nomura Securities International, Inc.

Good afternoon, thanks for taking my questions. For Mark, in terms of video and your broader media content strategy, just trying to think about your investment in Facebook Live, and then trying to frame that against investments in I guess non-live forms of video, such as maybe short form, prerecorded, professional content. So how do you weigh investing in live versus let's call it on-demand content?

And maybe a related question would be, FOX Sports and Sports Illustrated are co-producing some original content for Facebook Live. I think they're doing a pregame show ahead of the big game tonight. So that seems like, in some ways, it's an entree into sports perhaps for Facebook. Could you give us an update on whether or not you see any advantage or any benefit in licensing sports content over time versus having one of the publishers do it on the Facebook platform? Thanks.

Mark Elliot Zuckerberg - Facebook, Inc.

Sure. So there was a lot in there, and I'll address most of it. The video-on-demand content is the vast majority of video that is both shared and consumed on Facebook, not live video, but live is growing very quickly. And part of the reason why we're investing in it is we see that video as a medium is not only in the future going to be about people producing content that looks like traditional content and then consuming it in a static rectangle video screen.

So live video we think represents an example of something new, which is video which is a medium for doing something that's really interacting with other people. Whether you're a public figure that is using it to hold a town hall or interact with a lot of people at the same time, or you're hanging out with your friends by going live and you have 10 people who are just there with you chatting with you while you're doing something, going about throughout your day, it's not the kind of traditional video experience; it's actually a more social experience.

I think 360 videos in another way are another example of this kind of interactive video experience, and my guess will be that we will see more different kinds of video media as time goes on. I think Stories is another example of this. We're seeing it with Instagram Stories and with Messenger and the initial test that we have with Messenger Day, where that is another

interesting format for how you can put videos together. And I think that's going to be more and more.

But to put that all in context, the majority of consumption today is video on demand. We are very interested in making sure that the business model that we have works for folks who produce content as their business to make sure they can make money from it, so that their best content comes on Facebook. So it's going to be a lot of growth in all of these things across all our family of apps.

Operator

The next question is from Mark May with Citi. Your line is open.

Mark A. May - Citigroup Global Markets, Inc. (Broker)

Thanks a lot. I think the first one is for Mark. When you went mobile-only or started this concept, you had to tweak the app because it wasn't necessarily optimized for mobile. As now you begin to move to more of a video first approach, what needs to happen to the Facebook app both from a consumer-facing and from an ad tools perspective to make sure that you're optimized for video? What needs to change?

And then I think the next question is for Dave. As the rate of growth in ad loads slows and also as you continue to enhance targeting and as more video advertisers come onto Facebook, would you expect that eCPMs will rise and offset part, if not all, of this impact of the ad loads slowing? Thanks.

Mark Elliot Zuckerberg - Facebook, Inc.

So I can talk about shifting to put video first across our whole family. There are two broad sets of improvements that I think we need to make. One are to the capture and sharing tools that we offer. So the example of that is the new camera that we're working on and all the creative tools around that. And then on the other hand, we also need to improve the infrastructure to deliver the best videos to people and do that quickly.

So if you think about what is enabling video to become huge right now, it's that fundamentally the mobile networks are getting to a point where a large enough people around the world can have a good experience watching a video. If you go back a few years and you tried to load a video in News Feed, it might have to buffer for 30 seconds before you watched it, which wasn't a good enough experience for that to be the primary way that people shared. But now it loads instantly. You can take a video and upload it without having to take five minutes to do that, so it's a good experience.

So we're very focused on creative tools. You can see that a little bit in the announcement and launch of Instagram Stories and what we're doing with Messenger and some of the additional tests on Facebook and the camera work that we're doing in WhatsApp. So this is across the whole family of apps. This is a big part of the product experience that we want to deliver.

And then on the actual delivery of video side, it's just much more intensive technically. So there aren't that many companies that can do this at the scale that we're talking about, and this has been a big advantage for us. In rolling out things like Live, we've had this infrastructure that we've been building out for a decade all around the world, and that allowed us to build a product like Live where someone has to stream something live from their phone to potentially hundreds of thousands of people around the world. From a phone, that's a difficult scaling problem. So we've been able to build that up, not just because of the ongoing investment in technology and infrastructure here, but because we're building on this strong base.

That goes not only for just being able to deliver the content, but being able to understand what it is so we can rank it in News Feed better and show people the right content. But all of these things are going to be part of a cohesive experience to get behind our community. And when people are ready and want video to be the primary way that they're sharing and consuming content, we're going to be there ready.

David M. Wehner - Facebook, Inc.

Mark, on ad load growth slowing and the impact on effective CPMs, I think when you look at our business, demand has been one of the key factors driving growth. So we've built up a large base of advertiser demand. We've got 4 million advertisers on Facebook; 0.5 million advertisers on Instagram. We continue to innovate on the products to make them more effective and make this a great gateway for businesses to come onto Facebook and come into mobile and spend. And we expect we've got a lot of great opportunities to continue to innovate on that front. But we've also been innovating over the past several years. So demand has been a big factor in what's been driving our growth to date. On top of that, we've grown users and time spent, and then we've also grown ad load.

So I do think as we look into 2017, we do expect that as you get to mid-2017, ad load will be a less significant factor contributing. We'll continue to get benefits of being able to grow our revenue with advertiser demand and continuing to innovate there. But I do think that as we slow ad load growth, we're going to have a slowing in revenue as well. So that's our expectation, but obviously we're going to continue to work hard to innovate in the ad product space.

Operator

The next question is from Mark Mahaney with RBC Capital Markets. Your line is open.

Mark Mahaney - RBC Capital Markets LLC

Okay, two questions. A product question for Mark, in trying to – you're talking about some of these features and making the camera more of a central way of communicating on Facebook. How long do you think the iterations or the testing is going to go until, as an average user, I would notice that in my News Feed? Like I do see much more prevalence of live video, and it doesn't seem to me yet a perfect experience. But just in terms of other features and putting the camera at centerpiece, do you think this is something that's going to be obvious to people in the next year, couple of months? Just what's the timing of the innovations?

And then real quickly, MAU growth seemed to accelerate in both Asia and rest of world. Any color on what would have caused that or any particular markets? Thank you.

David M. Wehner - Facebook, Inc.

I can take the MAU growth first, and then Mark can talk about camera. On the MAU front, we're seeing very strong overall growth in terms of the 240 million-plus MAUs that we added.

If I was to point to – there's really no single driver, but I'll point to a few that contributed. And it also plays into the fact that we're seeing good growth in places like India, Mexico, Brazil, and others. First, we're improving our Android experiences, and we've talked about the impact that Facebook Lite has had on that, just making easier registration processes, just making Android – our lightweight Android app easier to use. Secondly, Mark talked about the internet.org efforts that we have. That's been a contributing factor to MAU growth. And then finally, we're seeing the introduction of low-priced data plans in markets like India and Mexico contributing. So there's no single factor, but those are all contributing factors in terms of MAU growth.

And then, Mark, do you want to talk about the camera?

Mark Elliot Zuckerberg - Facebook, Inc.

Sure. So we already rolled out the first test of the new camera in Ireland. And we're a company that believes in testing things and getting feedback from our community before we roll it out broadly. We think we have a lot to learn. And the methodology of how we develop is we try to build things

quickly. And rather than just relying on our own intuition, although we do rely on that a lot, we will try to put it out in the market and get feedback and then roll it out from there. So we rolled out what we believe is a good experience in Ireland. They were the first part of the community to get access to these new features. And then from there, we'll start to roll it out broadly across the world, hopefully sooner rather than later.

Same thing on the Messenger side, as I mentioned, these products around my day, it's a similar video medium to Instagram Stories and a similar camera to what we're building in the Facebook app as well. And that we rolled out in a few countries as well. And similarly, based on the feedback that we're getting, I would expect that we'll be rolling that out pretty widely across the world soon as well.

Operator

The next question is from Douglas Anmuth with JPMorgan. Your line is open.

Douglas T. Anmuth - JPMorgan Securities LLC

Thanks for taking the questions. We're going to stick with video, one for Mark and then one for Sheryl. Mark, how do you think about, whether with video in terms of doing it on core Facebook itself or on a separate video app, some of the puts and takes there between those two?

And then, Sheryl, can you just talk about with video, how you see marketers using Facebook more to complement TV and what it would take to shift dollars over in a bigger way going forward? Thanks.

Mark Elliot Zuckerberg - Facebook, Inc.

So in the main Facebook app, we're doing a number of different things. One is that video is naturally becoming a larger share of the content in News Feed because both people and pages are sharing more videos as a mix and people want to consume that content. So there's not really a question of whether that should be a separate app. This is what people want News Feed to be increasingly, so this is what it will become.

There is a second experience called Video Home, which we started talking about earlier in the year. and we've rolled out again in a few markets, and those tests have gone well. So we're also hoping to roll that out pretty soon widely. And that's the new experience, which if you come to Facebook and you specifically want to watch some different kinds of videos or you want to see what videos a recent page that you follow has posted or the Presidential debate is on and you want to find a good place to go online to get that, you can go to Video Home and see that.

That is a new experience that we're building, and building that as part of Facebook is a great way for people to see it and get exposure to it, and we'll see where that goes over time. I think it's a good experience inside Facebook, but we also have had examples over time, like Messenger for example, where we started it in Facebook and decided that in order to fulfill their potential, it needed to be its own experience over time. So we'll look at all those options, but for now I really think that Video Home is going to be a great experience, and I'm excited to roll that out.

Sheryl K. Sandberg - Facebook, Inc.

When we think about video ads and what platform they run on, we really believe that over time the dollars will shift with eyeballs, and our goal is to be the best dollar and the best minute people spend measured across channels.

It's definitely true that most of our advertisers are advertising on TV and advertising with us on mobile, and they should be. And we've done studies that show with Nielsen that our ads can be a really big complement to TV, particularly enabling you to reach people who really aren't on TV and you can't reach.

I think the power of what we're able to do really goes to the targeting. And what we're seeing is big brand advertisers, and this is actually particularly strong growth. This quarter was particularly strong for brand, are really recognizing that they can do big brand buys on our platform like they would do on TV, but make them much more targeted.

So for example, Nestlé Purina PetCare did an ad campaign in Germany with ZenithOptimedia, and they defined five distinct cat owner personality types and created different creatives for each group. So that's a big brand thing. The cat food category is big and they want brand awareness. But rather than just run one ad, they were able to run five based on the interest base and personality targeting that really only we can do. And the results were amazing. They got an 89% increase in brand awareness and a 20% lift in sales. And so we think what we offer is the power of the broad reach of TV, but an ability to target much more efficiently.

Operator

The next question is from Ross Sandler with Deutsche Bank. Your line is open.

Ross Sandler - Deutsche Bank Securities, Inc.

Great, I just have one for Mark. Any update on the revenue ideas for Messenger that might be getting traction? I know it's still early days, but any early indications there? And based on the three phases you laid out earlier in the call, when can we expect Messenger to move into Phase 3? Thank you.

Mark Elliot Zuckerberg - Facebook, Inc.

So I'd say we're pretty early in Phase 2. Just to recap the framework that we have here, the strategy is there are three phases for that. We build and then build businesses around these apps.

The first is build an experience and get it to scale, to build a community that can get to hundreds of millions or 1 billion people or more. The second phase is help people not only interact with the people they care about, but also the businesses and other public entities that they care about as well. And then the third phase is once there's good organic interaction between people and those businesses, give those businesses tools that they can pay for to reach more people and amplify those interactions.

So I mentioned this stat earlier that we have about 33,000 bots that are live in Messenger, including experiences across a range of verticals, from news to e-commerce to local businesses and all kinds of different things, and we're seeing some early progress. I'd say we're still pretty early on in getting this to be widely rolled out. I think we're going to need many more than 33,000. And the number of people using them, I think it's still pretty early in terms of there are more than 1 billion people using Messenger, so we need to get that rolled out pretty widely. So I'm not sure that I have an answer for you just yet on exactly when we're going to move to the third phase.

The one thing that I would say in terms of making money through Messenger is we're already driving results for businesses by letting them advertise in News Feed to open up threads in Messenger, which is different from the long-term vision that we have here around creating interactions that start in Messenger. I think that that will ultimately be most of the value that's generated. But in the near term, what we've found is that a lot of businesses are creating ads in News Feed that then they can follow up and do transactions with people in Messenger, and I think that's going to be pretty meaningful over the next few years.

Operator

The next question is from Heather Bellini with Goldman Sachs. Your line is open.

Heather Bellini - Goldman Sachs & Co.

Great, thank you. I just had a couple questions left. One, I was just wondering. Given your comments on the local and small business opportunity, I'm wondering what your view is on Facebook's potential role in the payment ecosystem and how that might evolve over time. And also, if you could, share with us how the rollout of Instagram Shopping, which people have started to talk about, how that might evolve over time as well. Thank you.

Sheryl K. Sandberg - Facebook, Inc.

In terms of payments, we really see payments as primarily a way to enforce the other activities we want to see on Facebook and Instagram. So payments enable advertisers to pay us. We are using payments in some of our other products in ways that enable some of the interactions we want to see.

When we think about Instagram Shopping, it's very early tests, but it really follows the kinds of things we do in other areas of our products and services, like Messenger. What we see is that people in Instagram are using Instagram to browse for products and make those connections, and so we then make the product investments to make those a little bit easier. Similarly, to some of the things we've done in Messenger, some of the things we've done in Marketplace, we're watching for what is the organic activity between businesses and consumers, and then we're building products to enhance and enable that organic activity.

Operator

Your next question is from Peter Stabler with Wells Fargo Securities. Your line is open.

Peter C. Stabler - Wells Fargo Securities LLC

Good afternoon. Thanks for taking the question, one for Sheryl. Sheryl, you guys have talked about your top verticals as being e-commerce, CPG, entertainment media, and gaming. And despite your really significant growth, I can think of some categories where you've got some more considered purchases where you're probably punching below your weight in terms of share, so auto, telecom, travel, financial services. I'm wondering if you could talk a little bit about some of the unique challenges with those verticals and how you guys are attacking them. Thanks so much.

Sheryl K. Sandberg - Facebook, Inc.

You have our top verticals correct, and we see a lot of strong growth in those verticals. Our top verticals this time are e-commerce, CPG, retail, and

entertainment media. We do see growth in the other verticals as well. You're right that historically it took us a longer time to break into some of these, particularly travel and auto were things that took us longer, but we are seeing some really nice traction.

I talked about Mary Barra and what she and I did together in New York at Adweek, and we're seeing them not just use the platform for advertising but really use the platform. So earlier this year, they rolled out a car at CES on Facebook video rather than at a car show. And that was a big moment for us, I think, in the auto vertical. And we continue to work with them and lots of other partners.

Measurement is really key there. The better we can do with dealers and with auto manufacturers at measuring all the way through the purchase, the better off we are. And I think they know that people are doing the research for autos and the purchases they make, which is a very long sales cycle on their mobile phone, and they want us to be part of that.

Similarly with travel, this is a vertical that we are really investing in. We have rolled out different types of product ads that we think will help. So in Q2, we rolled out Dynamic Ads that were specifically focused on the travel vertical, and I'll share one example.

Celebrity Cruises used these Dynamic Ads for travel on both Facebook and Instagram to increase their online bookings. They worked with one of our FMPs, StitcherAds, and they created custom audiences who viewed specific itineraries by date. So they look for people that at a certain date have used specific itineraries and then created Dynamic Ads which showed the available cruises and pricing and had a Book Now button. They saw a three times increase in their online bookings and I think those kind of results are made possible by more vertical-specific products, and we're going to continue to invest there.

Operator

The next question is from Justin Post with Bank of America Merrill Lynch. Your line is open.

Justin Post - Bank of America Merrill Lynch

Hi, thanks for taking my call. Dave, could you clarify a bit on investment year, what that means? Does that mean expenses growing faster than revenues? And then I think Mark mentioned \$250 million on content for VR. Anything else in there that we should be thinking about? And then maybe one housekeeping, ad blocking, could you quantify how much that might have helped desktop revenues? Thank you.

David M. Wehner - Facebook, Inc.

Justin, just on investment year, I'm not giving specific commentary around revenue growth versus expense growth. What I wanted to provide was just some color around our thinking about investment going into 2017.

Obviously, on the CapEx side, we've got a number of projects underway on the data center front. So clearly on that front, we've got a lot of projects that are going to need ongoing funding going into 2017, so that we've got good visibility on.

In addition, while it's too early to give specifics, I want to give some directional color around expense growth. We've already invested in accelerating our recruiting efforts, so I wanted to highlight that. That's primarily around technology, technical recruiting, software engineering, and we have a lot of opportunities that we see to invest in the long-term growth of the business. And so that's our plan going into 2017.

On ad blocking, in terms of the impact, I would just point out that this quarter we had 18% year-over-year desktop revenue growth. If you look at recent quarters, it was about half of that growth rate on a year-over-year basis. So that increment, that acceleration in desktop revenue growth is largely due to our efforts on reducing the impact of ad blocking. So that's what led to the acceleration of desktop revenue growth.

Operator

The next question is from Brian Fitzgerald with Jefferies. Your line is open.

Brian P. Fitzgerald - Jefferies LLC

Thanks. You've been tweaking the News Feed algorithm to prioritize friends and family, original content. We're curious what kind of impacts you're seeing there. And is it driving more engagement and more sharing of originals? Thanks.

Mark Elliot Zuckerberg - Facebook, Inc.

Sure. So News Feed is an ongoing work that we're always improving. What we basically are trying to do is work on over time adding more and more signals to the News Feed model to help us fully value what people in the community value about the different content that we show them. So what we realized was that the model that we had previously didn't fully capture the nuance in how people preferred certain content from friends and family. So we ran a bunch of qualitative studies and talked to a bunch of people and incorporated those signals into the model, and that has had the result that the people in our community who gave us that feedback and who we worked

with on this, what we had expected in terms of both increasing the quality of the content that people see, and therefore also enabling people to share more with their friends and the people that they want.

But one thing that I would clarify is that I think sometimes people – in your framing of your question, you asked if we had tweaked News Feed to do this or that. This is an ongoing iterative process. We're constantly learning about what our community wants, and we will constantly be trying to incorporate new information and signals into the models to help value all of the content in the system as accurately as possible. The biggest job that we have is to show people in the community what's going to be meaningful and important to them, and that is our goal in all of these changes.

Operator

The next question is from Youssef Squali with Cantor. Your line is open.

Youssef Squali - Cantor Fitzgerald Securities

Yes, thank you, two questions. About AI, can you help us understand your ambitions for MVO executed (53:39) in its current form? Does it have a place in the workplace, or internally maybe to enhance productivity, et cetera?

And about the additional functionality you've added to Pages with the delivery and a few others, can you just help us understand what you're doing around discoverability? How will people actually find these services, and do you need tools for that? And maybe timing, how quickly can we see these tools being rolled out? Thank you.

Mark Elliot Zuckerberg - Facebook, Inc.

I did not fully understand the first question, so I'm going to talk about our AI work overall. In general, what we want to do is try to understand the content that people are sharing and that's out there for them to see as best as possible. So for example, that means being able to read and understand news articles or posts that people make or messages that a person might send to a business so we can help that business auto-reply to them and get information back to the person really quickly, or understand the content so we can better understand what might be interesting to a person and show it in News Feed.

Similarly, aside from the conversational and linguistic understanding, there's a whole thread of the work that we're doing on visual understanding. So understanding photos, what's in photos, what's in videos, what people are doing. That allows us to not only do things around accessibility, to show

somebody who is visually impaired to be able to read to them what might be in a video or a photo. But it also helps us rank News Feed better, so that way we can help understand what is in the content and show people more of what is going to be meaningful to them. It helps us identify content that might be offensive or graphic that might violate the policies of Facebook so we can flag that and review that better.

So that's the main thread of the AI work we're doing is trying to understand conversational and linguistic context and computer vision, photographic and video signals to understand what's going on there. And that will apply across basically every product that we build at the company. And then of course, there's some deeper AI research that we're doing that feeds into those applications as well. That can apply to things like ranking for News Feed and search and ads and all of our systems more broadly.

David M. Wehner - Facebook, Inc.

On the discoverability of pages, a couple of things that I would point out there. First, we continue to invest in search. So obviously, that's a good way for people to discover interesting pages, interesting businesses around them, so search is one angle there.

And then of course, ads, we've got 60 million businesses with pages. They manage those pages and then they can promote those pages via our easy-to-use ad products. We try to make it very easy for businesses to promote pages, promote posts and the like. So that's an important on-ramp to mobile advertising for a number of businesses around the world. Those are the two ways that I think of from enhancing discoverability of pages on Facebook.

Deborah Crawford - Facebook, Inc.

Operator, I think we have time for one last question.

Operator

Okay, the last question is from John Blackledge with Cowen & Company. Your line is open.

John Blackledge - Cowen & Co. LLC

Great, thanks. Just as it relates to video search, do you think that Facebook has the video content depth at this point for users to search for video content and be pleased with the experience?

And then second for Mark, while Facebook embarks on its video first strategy, how should we think about Facebook also evolving into a

transactional platform with the recent introduction of the Marketplace?
Thank you.

Mark Elliot Zuckerberg - Facebook, Inc.

Sure, so search is an area that we've been working on for a while to improve. I don't know what the most recent public stat is on that. So I'm not going to say a stat, but it's grown a lot. So we're happy with that and we think that reflects that people are getting value from the search experience, which a lot of the growth comes from people searching for posts and content in the system, not just looking up people and pages in the system. So on search, there's that.

And then of course, I think that search is often driven by what unique content is in a system and not just the ability to find it. So I think what people are going to search Facebook for are finding people and content that they know is on Facebook and that isn't in other places. And that I think is driving most of the volume today and I think can get us to be – we're already one of the largest search engines in the world, but to be even bigger on that front.

You asked about transactions as well. And we've spent a lot of time on this call talking about putting video first. That has certainly been the biggest theme of the last quarter and is the biggest part of the product strategy for Facebook and Instagram and is a big part of the product strategy for Messenger and WhatsApp as well. In terms of transactions, one of the big things that we see happening in messaging long term is that it's a great channel for people to interact with a business one on one and either do transactions in a private space or get support, or for businesses to reach out with very personally tailored messages and have an ongoing engagement with a person. So that's something that we're very excited about building. And that is going to be the business that we hope to build on Messenger and WhatsApp over time. So we're looking forward to that.

Marketplace I think is going to be a great example of this too. What we're seeing in pages and marketers on Facebook is they want to both get awareness and drive all the way down to generating transactions, and Marketplace I think is going to help people do that. We're starting with people being able to sell things and connect to other people who want to buy them, just like they've been doing in for-sale groups for many years, but we're excited to evolve this and grow it over time as well.