AMENDED Exhibit 156

PLAINTIFFS' OMNIBUS OPPOSITION TO DEFENDANTS' MOTIONS FOR SUMMARY JUDGMENT

Message

From: Andrea Besmehn [/O=THEFACEBOOK/OU=EXTERNAL (FYDIBOHF25SPDLT)/CN=RECIPIENTS/CN=5B51E4B8C8D84554A3CA4EE7142D130C]
Sent: 6/3/2019 4:44:42 AM
To: Mark Zuckerberg [redacted]]
CC: mzadmin [[redacted]]
Subject: June H1 / H2 reviews: Wednesday pre-reads
Attachments: 0_2019 Product Plans_November 2018.pdf; 2 -Facebook-App-H1-Review-2019.pdf; 3 - H2 2019 Instagram Product Strategy.pdf; 4 - WhatsApp June 2019 H1H2 Review.pdf; 4 & 5 (pre) - Interoperability H1H2 2019.pdf; 5 - Messenger H1H2 2019.pdf; 6 - Commerce H1 review - June (final).pdf; 6 & 7 (pre) - Central Products_ Overview.pdf; 7 - ABP 2019-H1H2 Review [ac priv].pdf; FB-Roadmap-2019.001.jpeg

Mark: here are the pre-reads for Weds' product reviews and an outline of how you might think about opening up the day. We have planned 15 minutes up front for this but could extend if you agree it would be useful context setting.

I've also include the product strategy summary from the November 2018 reviews that Chris had pulled together.

Naomi, [redacted] and I are consolidating discussion questions and meta themes (based on the questions) from the pre-reads, and we'll work on sending you what we have by EOD tomorrow.

Intro / Opening

Use this opportunity to reflect on the last half, restate your goals and clarify the north star for our product direction. Answer some of the key questions from here: Mark's Thoughts on Family

- **Reflections on the last half**
  - Progress vs. 4-Point Plan
- **Priorities for next half**
  - Family of Apps Strategy
    - Define the goal(s) for our Family of Apps Strategy
      - De-fragmented network, share of the market, something else?
    - Define the role of each app in the family
      - Town square vs. Living room
      - By market, by demographic / audience, other?
    - Articulate the policies for what we integrate (vs. differentiate)
      - Products: Messaging, Stories, Commerce and payments, Groups
      - Network: master account, data sharing and data portability
      - Brand: attribution to Facebook, Inc.
      - Other
  - Apps and Central Products Strategy
    - Describe the vision for how apps and central products should work together
    - Should we have more horizontals?
  - Future Tech Strategy
    - Define the new 3-5-10 (current version attached)
- **Key Risks**
  - External Risks: Ecosystem, Competition
  - Internal Risks: Execution, Leadership

DOCUMENT SLIPSHEET

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Author:

Filename: JUNE H1 / H2 REVIEWS: WEDNESDAY PRE-READS

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Facebook App - H1 2019

SUMMARY

Our strategy is to:

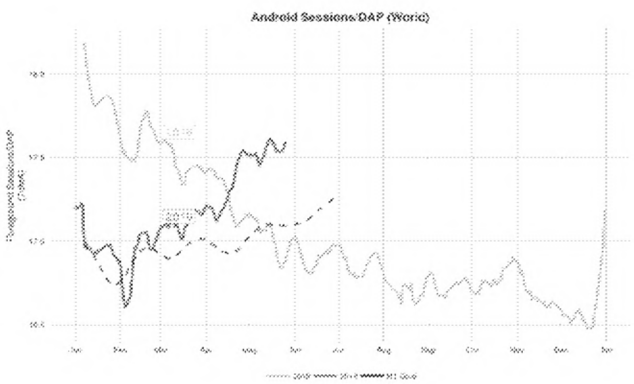
1. **<u>Fix what's broken</u> in our app - perf, reliability, usability - so people can actually access the value we provide.**
2. **Protect our core use case of <u>sharing and interacting</u>, since this is the main reason people come to FB.**
3. **Extend from being a place for friends and family to also include <u>communities</u>.**
4. **Give people more ways to unlock of the value of having their friends, family and communities here,** i.e. **<u>build new services</u>** 10-12 services, of which any one person finds 2-3 highly valuable.

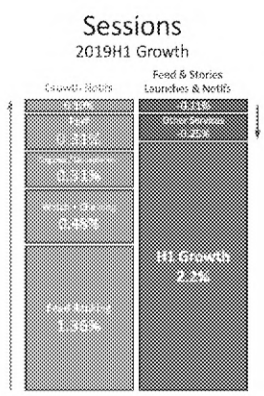
H1 was a strong half across the dimensions of this strategy. We continued to have strong perf improvements, stabilized sharing, reignited groups growth and launched a big redesign that put communities at the center of FB. We saw success in scaling Watch and Marketplace while demonstrating promise on the newer bets like Dating.

We are on track to beat top-line goals across DAP, MSI, sessions and time spent. In particular, visitation to Facebook ("sessions") has angle changed upwards this half compared to 2018. Both time & sessions are growing across all regions and session is also growing across power & marginal users, with attributable product improvements explaining 86% of sessions growth and 78% of time growth. MSI measured across Feed & Stories is growing robustly YoY due to product work, without which we would remain negative.

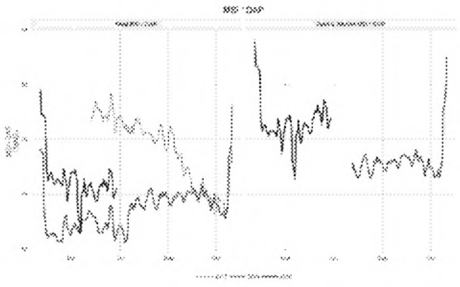
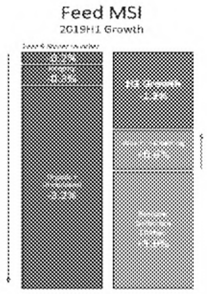
Global DAP (7d) is on track to exceed the H1 goal by +9M. DAP:MAP ratio is holding flat from 2018 at 0.66 reflecting a mix shift to Developing markets and declining DAP/MAP ratio in Developed Markets. US&CA DAP (30d), after holding flat Q/Q in Q1, has seen stronger growth in Q2.

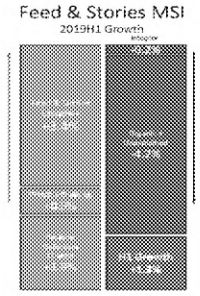
Globally, **Sessions/DAP** have grown steadily over the course of the half and are now +5.1% YoY. Sessions growth was driven by improvements to Feed Ranking, Videos (both Watch & Chaining), and Android startup time. Sessions are growing across all regions including US&CA (+6.6% YoY and +0.8% compared to goal) and across both power and marginal users. Finally, 70% of sessions gained were a minute or longer, abating concerns that we are only growing short sessions.



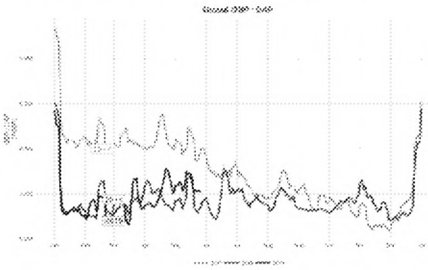
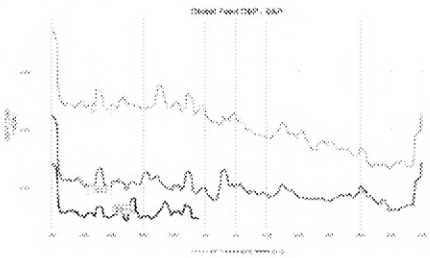
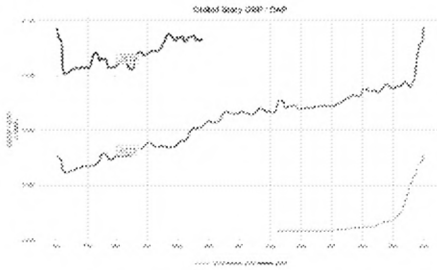


Meaningful Social Interactions measured across Feed and Stories continues to grow robustly (+7% YoY) while growth in MSI in News Feed is more modest (+2% YoY). Growth is powered by strong increases in Stories MSI (+123% YoY) and News Feed reactions (+31% YoY). While there is strong growth in reactions, other components of Feed MSI are showing a negative trajectory in H1 with U2U comment/DAP being -5.1% YoY and like/DAP being -12% YoY (YoY compared to 7/19/2018).

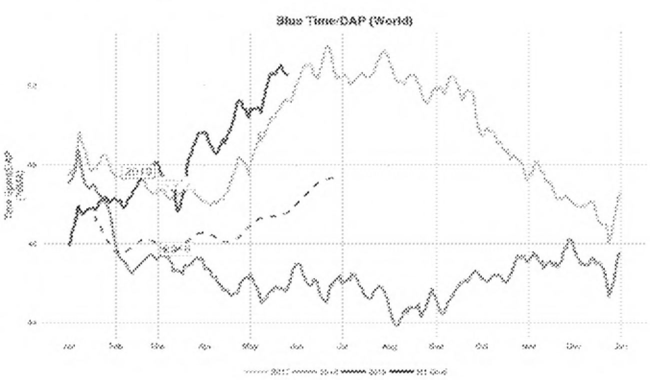
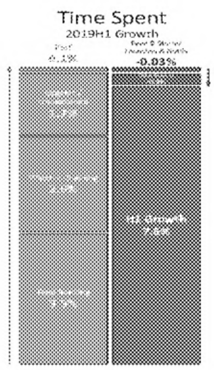





Overall sharing/DAP grew (+12% YoY and +13.6% YoY in the US/CA) due to a combination of continued growth in reshares (+22% YoY) and stability in Original Broadcast (OBP) sharing which even showed slight YoY growth (flat to +3% YoY globally and +5-6% YoY. in US & CA). OBP is stable/growing because the growth in Stories offsets the decline in original sharing to News Feed. Stories now represents ~1/3 of OBP. However, original sharing *participation* continues to be negative YoY (between -4% and -7% YoY over the half). It is increasing slightly in Q2 after remaining flat over much of H1.

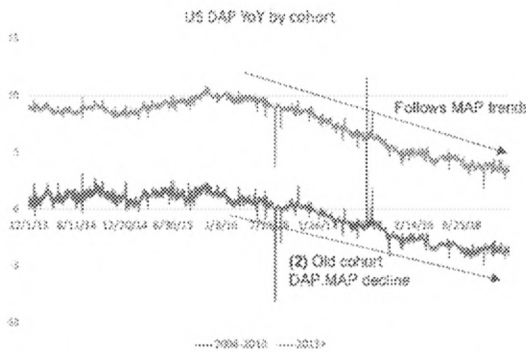




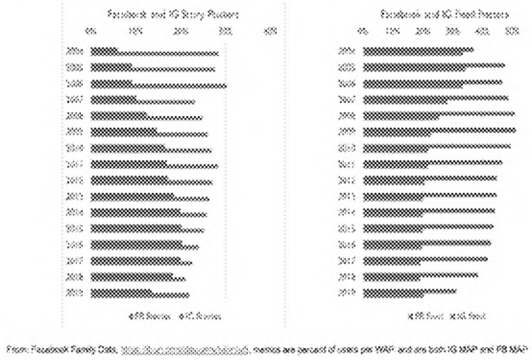
Time Spent (per DAP) is showing sustained growth and is ahead of H1 goal (+7.4%) and 2018 (+11.9% YoY). At over 50 minutes, it is at an all-time high in global time spent/DAP for this point in the year and largely due to increases in video. While we need to continue to monitor the trend closely, at this stage it is not worrisome because non-video time spent is holding flat, as are trends in sessions, MSI and OBP (all of which are materially better than in 2017). In the US and Canada, time spent has grown +0.5% half-to-date, +9.1% YoY, and is ahead (+5.0%) of our H1 goal.

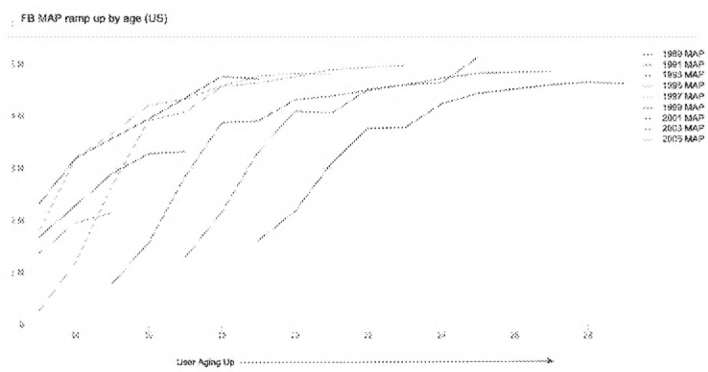
However, there are many reasons to remain paranoid about our underlying trends. In particular:

- **Seasonal trends in H2** have historically led to declines. Our gains in H1 may reverse later in the year. In both 2017 and 2018, Original Broadcast Feed Posting was flattish in H1 and then fell in H2.
- **Engagement in some critical markets and cohorts remains challenging:**
  - **Engagement and DAP/MAP in the earliest US cohorts continues to decline.** We are going to continue to focus efforts on known levers like IG→FB cross-posting, Friending and Feed Ranking. In parallel, we are partnering with the Growth team on how to better leverage products like Groups and Marketplace given relatively higher adoption by older cohorts vs. other new products.





  - **Relatedly, engagement levels vary greatly across the US with the weakest engagement in coastal urban areas** (including SF and NYC). Engagement gains are primarily coming from areas that were already strong. We think that this contributes greatly to our perceived loss of cultural relevance which may become a big headwind; we kicked off a task force to address this.
  - **Teen engagement in the US has remained flat.** A lower proportion of each age cohort adopts Facebook as teens, and it takes longer for 20+ age cohorts to reach full MAP penetration. We do *not* plan on working specifically on initiatives focused on the teen years but want to kick off an effort focused on college years to get these teens back later on. We're also exploring teen-specific efforts in developing markets where we haven't lost the battle yet.



  - **India remains a challenge**: Although product launches in H1 across News Feed and Stories have had meaningful positive impact on interaction measures, there are significant organic headwinds, particularly in Feed sharing and interaction. Our plan is to work on integrations with WhatsApp for sharing, while ramping up dedicated efforts on public content where we can still win (public figures, video, feed ranking, etc) and partnering with Growth on Lite, Usability and Safety.

In H2, we want to continue growing across all of our core health metrics (DAP, MSI, sessions, time spent), but also want to tackle the decline in OBP participation specifically. Additionally, early data shows that the majority of people only find "a little" to "a moderate amount" of value from Facebook. Value is something we want to increase and make a top-level goal, so we will spend time finding the right way to measure it and move it in H2.

Our priorities for H2 are to:

- **For fixing what's broken**, we want to start addressing things that make the app feel slow even when objective perf is good;
- **For sharing, we want to close the quality gap on Stories** once and for all, then start innovating, as the main bet to address sharing headwinds;
- **For communities, accelerate growth of Groups** and deepen the value people get from them, as well as lay the foundation for Communities throughout the app beyond just Groups;
- **Continue scaling existing services and find product-market fit with emerging ones.** In particular, lay the foundation for bigger bets on Interests.

1. Fixing what's broken: Perf, Reliability, Usability (1-year horizon)

Since we started our push towards good **performance** in Jan 2018, the app is materially faster and more reliable. We reduced FB4A start up times across all starts and for the slowest starts from over 5s to 3.6s, which directly increased sessions by 1-2%. Less than 2% of key interactions were fast (1s or less 75% of the time) in Jan 2018, but we expect over 75% of them to be fast by end of this half. Crashes are at an all-time low and app size on both platforms shrunk significantly and is holding steady.

	Android ME			iOS ME				
Metric	H1 start	H1 goal	May	H1 start	H1 goal	May	H2 Plan	North Star
% **good** starts <5 sec)	74.9%	85%	84.2%	41.5%	63%	70.8%	Hold the line	90%
% of **fast** starts <3 sec)	62.2%	75%	74.5%				improve	80%
Cold Start Avg (iOS)				6.6s	5s	5.4s	improve	4.5s**
App Size	52.2MB	50MB	45.2MB	178MB	164MB	163MB	Hold the line	40MB (Android) 150MB (iOS)
Reliability - FADs	5.0%	4.5%	4.2%	2.0%	2.3%	1.6%	improve	< 2% SAD (Android ME)

In perceived speed surveys for Facebook-only users versus IG-only users **we see both cohorts rate performance of their respective apps as equally fast.** Amongst dual-app users, 50% rate the apps as equally fast, 12% rate FB as faster, and 38% rate IG as faster. Research shows that the remaining gap is not due to objective performance but to **new areas we are going to tackle in H2:**

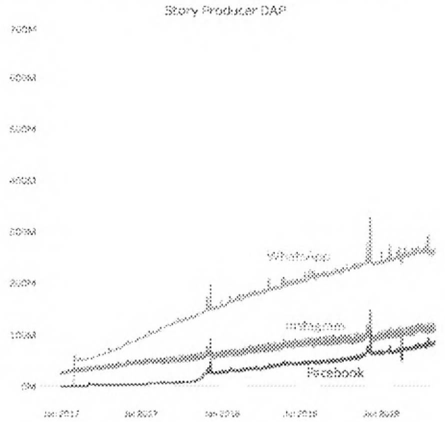
- **Perceived performance:** our image loading experience is worse than IG and many loading transitions are still jarring. We redesigned these in H1 and are now running in-product tests that we'll implement across the app if the results are positive.
- **Usability and cognitive load:** Initial research show that visual complexity and poorly designed experiences slow down users and therefore make the app itself feel slow. Nearly everyone can successfully browse News Feed but have some difficulty with most other products or tasks. We'll pilot a usability program in H2 with the objective of building a scalable playbook we can implement across the Facebook App in 2020, like we did with perf.

We will also **continue our work on objective performance**: most interactions are at p75<1s but we want to push more to <500ms and also reduce outliers by looking at p90 or p95 thresholds. Similarly, we'll work to improve startup by making fast starts faster and reducing the number of slow starts.

Overall, we feel good about progress but still clearly have more ground to cover in H2 as we uncover more areas to tackle to have a really high-quality app.

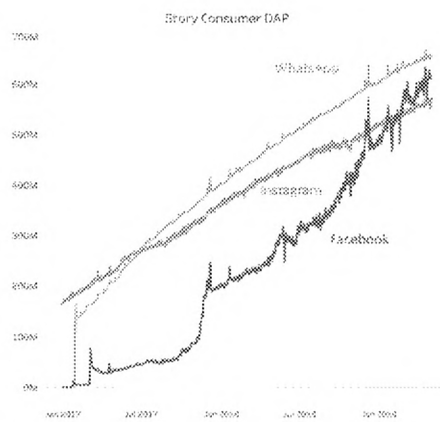
2. Protecting Our Core: Sharing and Interacting (1-year horizon)

The overall state of **original sharing** has continued to improve over the last six months, but some areas of concern remain. In H2 2018 we saw original sharing volume stabilize due to the growth of stories, but original sharing participation rate had continued to decline. Both have since improved in H1 2019. Original sharing volume is up between 0 and 3% YoY. Broadcast sharing participation is still negative YoY, but it was flat in Q1 and has been increasing so far in Q2. However, historically we've seen bigger declines in sharing participation in H2 than H1, so we remain worried.



For **Stories production**, we will miss our original goal to reach 90M Story producer DAP due to our decision to remove the News Feed composer share sheet to upsell people to post to Stories. While it increases Stories inventory by 30%, it actually decreases overall original broadcast posting (-2.5%) and there was no evidence that people were learning about Stories through this upsell. As part of the above change, we reset our H1 goal to 62M Story producer DAP who are posting exclusively to Stories. We are currently on a trajectory to slightly miss this goal but hope that upcoming launches will get us there.

In recent months, original, exclusive Story producers (OESPD) has grown by an average of 7.8% per month and is now at 54M. For comparison, Instagram currently has 89M OESPD accounts (growing at ~4.6% per month in Q2). If we maintain these relative growth rates, we would catch up with Instagram in H2 2020. In the U.S. we are much further behind (3.3M OESPD vs. 11.2M for Instagram). Our relative growth rate is stronger (~9% per month vs. ~5% for IG) but not by enough to be on track to catch Instagram in 2020. These timelines are longer than previous estimates given that we are further behind on original, exclusive Stories producers than we were on overall producers, and we're working on bigger bets to accelerate our pace.



Stories consumption continues to grow at a strong rate. We now have around 600 million Story consumer DAP (slightly more than IG). Stories consumed per consumer DAP improved from 23 to 28 but is still substantially below WA (51) and dramatically below IG (150). We estimate that 62% of the gap with IG is driven by differences in availability and consumption of public figure stories, so we staffed an effort specifically on it.

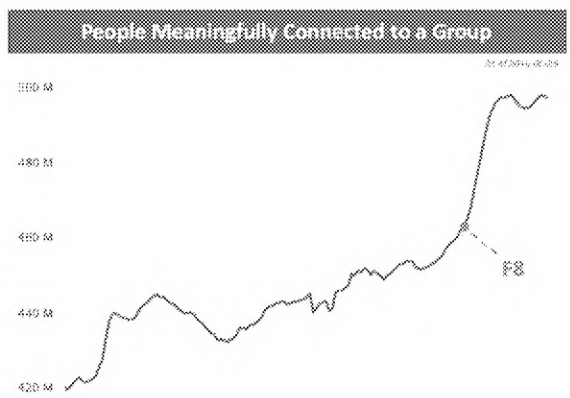
This half our product work has been focused on improving the fundamentals of Stories (e.g. perf, reliability), optimizing the core creation/consumption experience (9:16 tray, ranking changes, composer changes), and closing the polish/feature gaps with Instagram. We've made substantial progress across all of these dimensions and our pace of execution has been improving in recent months, after being the key concern last half. Product work has increased original, exclusive Stories producers by 6.9% and Stories consumers by 4.5%.

Meaningful Social Interactions on Feed and Stories continued to increase this half and are up 7% YoY, ahead of the +6% YoY goal. While the overall state of MSI across the app is reasonably healthy, we are watching two areas of potential concern: feed MSI is growing modestly and it may be hard to grow unless we can stop the decline in feed posting; some of the gains in MSI this half have come from optimizing for interactions that people find more meaningful (interactions with close friends; reactions prioritized over likes) rather than total interactions and as a result the trajectory for raw interaction counts is not as strong. **In H2 our primary focus will continue to be on improving the core Stories product and making Facebook the best place to share with friends and family.** We will set goals on original broadcast participation (OBPD), original, exclusive Story producers (OESPD) and MSI. Key areas of work will include:

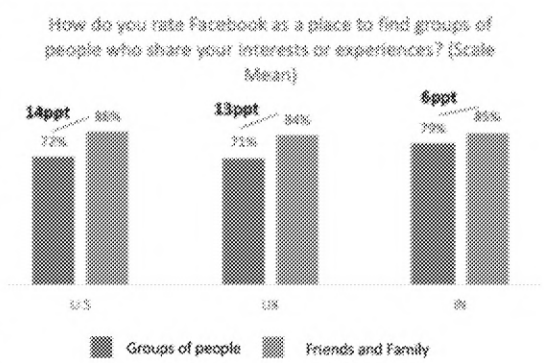
- **Improving image quality and posting reliability:** Performance and other dimensions of reliability improved dramatically in H1, but these areas still need further work.
- **Closing the remaining features gaps with Instagram, then innovating on our own path:** We expect to close all gaps that yielded measurable benefits for IG by early Q4. Beyond these, we think we need to find what will make FB Stories uniquely valuable and will aim to exit H2 with a validated approach.
- **Increasing awareness and understanding of the Stories product:** Only 50-60% of people in the US are aware of Stories. Among these users, only ~60% know Stories are ephemeral and ~20% know that feedback is private.
- **Increasing interactivity and expression:** Creative tools usage remains low and we think this is a big lever for increasing producer retention.
- **Improving the feed sharing experience:** We think feed will remain the best place for important types of sharing, but the feed composer has been neglected since we launched Stories; we want to restaff a small effort there not to lose the types of sharing that are critical for feed.
- **Improving Social Interactions:** Looking beyond Stories, we think there are other opportunities to help people have meaningful social interactions on Facebook. We're exploring a few possible bets including improving conversation threading, making commenting less pressurized, and allowing people to start chat rooms around an interest.

3. Expanding from Friends & Family to Communities (1-year horizon)

Groups is growing healthily again. We grew from 428M people connected to a group that is meaningful to them (MP) to 497M this half. +30M came from groundwork that preceded the f8 push: improving the Groups Tab, better News Feed ranking (including a win from increasing the pool of groups content to feed into ranking models), a 1.1% GYSJ join rate (vs. 0.6% at the beginning of the half), and expanding the Groups tab to a default audience. We're also developing a playbook for sustainable growth in close partnership with Growth Marketing.



We launched a lot of new features to make Groups a central part of the app at f8 and launched new marketing for people to see the value FB brings through Groups. The campaign has not yet been rolled out globally, but already increased Group joins by 40% in US/CA and Meaningful People by 8.4% worldwide. The ultimate goal is to change the perception of FB to be about communities - there's currently a 14-point gap in the US between how people rate FB as a place to "find groups of people who share your interests or experiences" versus "connect with friends and family."



We want to close 25% (3.25 pts) of this gap in the US (1.75 points coming from marketing and 1.5 points coming from product).

Notably, there's a positive correlation between the perceiving Facebook is a good place to find groups and other measures of brand sentiment like CAU.

In H2 our biggest focus will continue to be on product quality and growth, particularly GYSJ improvements, growth understanding work, paying down technical debt from FB=C, shipping Groups on Comet, and further work on integrity. There are a few additional work streams we had to pause or focus fewer resources on in H1 to support Lockdown **that are critical to resume in H2:**

- **Sustain a healthy ecosystem.** We want to exit the half demonstrating we can drive groups creation and activation. We also want to identify and make a plan to close inventory gaps across key categories.
- **Incentives for Community Leaders.** We have not been successful in launching admin monetization products. We'll re-evaluate strategy and validate 1-2 solutions in H2, which is a requirement to unblock ads in groups in H1 2020.
- **Make Groups more valuable.** We will take on one innovation big bet - early ideas include going deeper on a vertical (local, forums/Q&A) or building out richer groups features (like chat-focused experiences).
- **Extend Community beyond Groups.** We know there are products beyond Groups that fulfill a community-centric value proposition - research has shown that Events, Pages, and even Messenger threads can create a sense of community. We'll leverage our research on how to define and measure community to inform a broader effort that helps people form meaningful connections to communities to further support repositioning the app.

4. Building Valuable Services on Top of This Network (3-5 years horizon)

If we're successful, one of our strengths will be to have a full network of everyone you know, as well as everyone you have things in common with, all in one place. This gives us an incredible advantage to build new valuable services. With Marketplace and Watch, we've already demonstrated that this strategy can make the overall app meaningfully more valuable to people, as they are both incremental to the overall app.

We need to have a full portfolio strategy for these new services, in particular:

- **Scale the <u>established services</u> - Watch, Marketplace - further.**
- **Deepen the product-market fit of <u>emerging promising services</u> - Gaming, Dating, Local - further.**
- **Incubate the <u>next set of promising ones</u> - like the News tab or Voyager.**
- **Build foundational infrastructure that can make all of these new services better and foster new ones:** we're building a better **<u>interest graph</u>** that can power Watch, Groups, etc... but also give rise to new services like Voyager.

MARKETPLACE

700M people come to buy and sell in tab, buy & sell groups (BSGs), and Pages monthly. Over 5M people make half of their income or more selling on Marketplace.

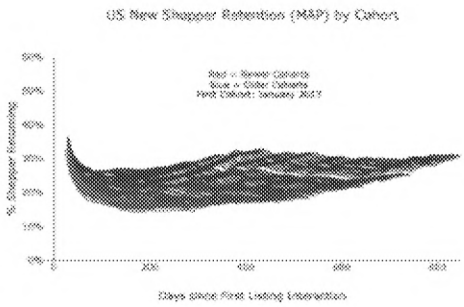
Metric	2019 H1 Goal	Status
Meaningful Listing Interactions ("MLI")*	9.4 B (+17.5% HoH)	9.2 B
Scam Prevalence - Seller	< 50 Bps	40 Bps
Scam Prevalence - Buyer	< 20 Bps	8 Bps

* MLI: Three back and forths between a buyer and a seller within 24 hours

In H1, **Marketplace grew meaningful listing interactions (MLI) by +15% HoH (>80% YoY) but will come slightly short of goal due to headwinds and quality investments** (e.g. a new CTA that hit MLI by 6.5% to reduce accidental messages). Seller scam prevalence is elevated from auto scams in India, but we are fixing. Buyer scam prevalence is on track.

Marketplace also drives 0.46% in incremental FB app sessions and 0.34% in incremental FB time spent based on our long-term holdout.

Highlights



- **Marketplace NPS went from -21 in Q4 to -17 in Q1.** NPS for those who self-report transactions is +29 vs -56 for those who browse. Improvements in user experience and targeted tabs both contributed towards this increase.
- **Shopper retention remains healthy.** Shoppers are people who message a seller. US weekly retention is 90%+ and search participation is 20%+. More than 4% of US FB DAP search for products in Tab, BSGs or Global Search.
- **Market share is strong (but awareness lags).** MP is #2 in C2C in four markets: US, MX, UK, and CA. Unaided awareness is low at 16% in US but growing in UK and BR (+5pp). We are tied with Craigslist for US online used vehicle sales at 9%.
- **Marketplace Ads will be a $1B ARR business by end of H1.** This is up from $675M ARR at the end of H2. Marketplace is now the 2nd highest rev/hour surface after IG feed. Based on pretest result from CVR, DPA, and MP ads models, the attributed MP signal value for Ads is 0.31% Global Ads Score.

Lowlights

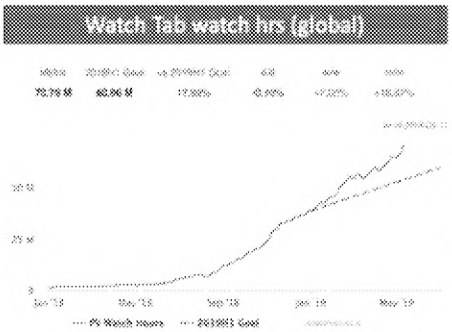
- **Headwinds continue to significantly impact Marketplace growth.** Targeted Tabs, SEVs, and changes from other teams are affecting our ability to drive top of the funnel growth.
- **We are making headway on Integrity, but there is a long road ahead.** Scams and policy violations (e.g. LQEC) are still major risks. Scam auto-actioning went from <10% to 40%+ without impacting prevalence. False positive rejections have been reduced by 90k/day while reducing prevalence by ~0.5%, but we need to keep investing as the ecosystem evolves.

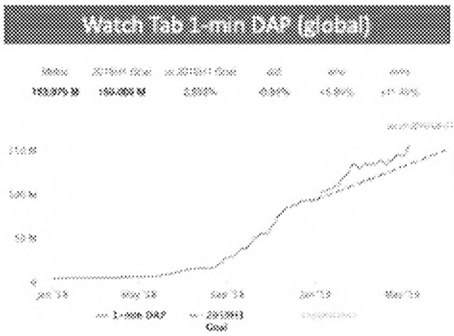
Looking ahead to H2, as our C2C ecosystem gets more efficient, we must expand audiences and use cases as described in The Everyone Store.

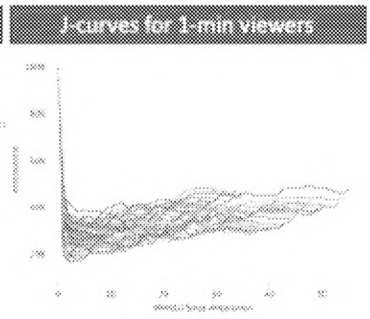
1. **Invest in existing verticals and expand into new use cases**. We are a global leader in C2C, but Motors and Real Estate are still early. We are expanding to new verticals including Event Ticketing, Jobs, Home and Garden.
2. **Bring onsite commerce across FB app (e.g. Watch, Games, Live)**. We are building product tagging with onsite checkout across FB app to convert commerce interest into transactions.
3. **Launch C2C shipping to expand supply.** Over half of C2C markets in US, UK, DE, MX and BR are shipped items. Scaling through shipped C2C will drive inventory liquidity and help us ladder up to eCommerce. We will begin pubic roll-out in late May with the goal of 45K annualized transactions by the end of H1.
4. **Expand in transaction measurement.** Since most of our transactions happen off-platform, we rely on MLI as our proxy operational goal. We are investing in 1) seller reporting 2) Messenger payments, and 3) 1st and 3rd party data. We are now measuring 10.5K transactions/day and on track towards our H1 goal of 25K/day in the US.

VIDEO

Video on Facebook is at an all-time high of 433M hrs/day and growing (5% MoM). Time Spent on Watch has grown 85% this half and is a strong contributor to the strength of FB app metrics: Watch added +0.6% of Blue time spent, +0.11% Blue DAP, and +0.19% Android sessions this half. It represents 7% of the time spent in the app. Watch passed its H1 goals (currently 71M hrs/day vs goal of 60M). Long term j-curves continue to trend up (iPhone mid 40s, Android mid 30s). That's despite some cannibalization from video growing again in News Feed, and other tabs taking reach.







Making Watch be loved will remain top priority in H2: People still don't love Watch (only 57% of our users are satisfied with their experience on Watch compared to 83% on YouTube) so we are doubling down on quality of videos. We already made changes to improve the experience that cost us watch time and we will need to see if they materialize in sentiment improvements in H2.

Making Watch social is our second priority and we are actively testing several social features this half including integrating Live and Co-watching in Watch, introducing recommendations for Groups, making it easier for people to share videos with friends on Messenger, etc. Watch Party in Groups is now bigger than Live in Groups and Profile parties is growing. Production is up 80% since beginning of the half, resulting in ~875K parties/day currently. The number of returning hosts has 3X-ed and 20% of daily active hosts return the very next day to host another party. But it is still small, and we need to grow faster: in H2, we are investing in premium music videos and live concerts that are specifically things people seek out and want to co-watch.

On the content side, our biggest partner challenges are related to distribution.

- We made good progress this half and **increased distribution of videos that users actually cared about and from top quality publishers by 126%**. However, we are still significantly lower in views compared to what good publishers get on YouTube and we believe we are 1-2 halves away from fully solving the distribution challenges by working with News Feed.
- **On monetization, we are growing 2.5X HoH and crossed $1B+ run rate in ad share revenue program.** Today ~4.7K pages make $1000+/mo from ads rev share and ~300 from user pay products (subs, tips).
- Creator Studio, the platform our partners use to publish on Facebook, now supports IG/IGTV and we are making it a one-stop shop for publishing across FB Inc.

As for **content we fund**, we are now focusing on building content depth in the long-term sustainable experiences like late-night catch up TV and shoulder content around global events, as well as testing premium music videos, as mentioned above. We also kicked off efforts to better measure ROI.

As for Lasso, retention is very low (but steady) with new user D28 retention at ~2-3% (8% for TikTok in US). Due to lack of audience from low marketing, creators have less incentives to continue producing content, leading to low user retention. We're kicking off a paid creator pilot to attract more content and will test increasing distribution through integrations within Blue. H2 is the last shot for this product.

GAMING

We aim to revitalize the global gamer audience on Facebook by building the world's gaming community. We will help people watch and support streamers, play games with others and connect with like minded gamers in private chats and groups.

We have proven viability of our Gaming Videos platform: **we are ~55-60% of Twitch on mobile globally, with Facebook being the regional leader for live game streaming in SEA and now LATAM.** We have over **28K streamers** on Facebook Gaming, up from ~10 at the beginning of 2018. There are **~44m 60s viewers** who watch gaming live video every week, up from ~20m (+120%) at the beginning of H1. Watch hours are steadily increasing to **3.1m daily**, up from 1.62m (+93%) from the beginning of H1. We also see early signs of incrementality with game streaming driving **+0.18% DAP and +0.73% sessions amongst gamer audience.** While we are making rapid progress, we have yet to crack North America, our most important market. Going forward we will be shifting focus to western markets, starting with the US. Our challenges in the US remain relevancy and awareness as a viable gaming platform.

Our play platform Instant Games has faced several headwinds: changes in games entry point in Messenger M4, removal of games in Lightspeed and Facebook platform policy changes have led to developer dissatisfaction and reduced distribution. We continue to be hamstrung by iOS policy which prevents offering IAP monetization as a feature of our platform. Despite this we saw an all time high of **211m WAP** and ~**$235m annual run rate** in H1. We are also seeing **+0.07% sessions** for FB overall. Our priorities are to increase game and platform retention while porting the Messenger Instant Games audience to the Games Tab.

In H2 and beyond we're betting on three major initiatives:

1. **Deepening the Gaming tab experience:** Our recent launch to 33m people signaled our commitment to developers and streamers. We'll improve content inventory and personalization, provide immersive experiences (e.g., Instant Games previews), and make it easier to share game experiences (e.g., clips, stars, community tournaments).
2. **Pursuing our cloud gaming strategy:** Cloud gaming will provide richer gameplay and social experiences directly within Facebook, helping us solve the core job for gamers and build communities more effectively (e.g., by integrating friend lists, chat, presence before/during/after gameplay). To differentiate, we'll focus on mobile-friendly, free-to-play, free-to-start games for "mid-core" audiences who enjoy playing games but not necessarily AAA PC/console games. We expect a primarily ads-based business model both in and out of game, with potential new monetization opportunities like game-related purchases. We'll accelerate required technology via partnership or acquisition, aiming for a public beta by mid H2.
3. **Accelerating game services:** We'll invest in game platform services that enable social gameplay on and off Facebook and makes our Gaming tab a vibrant hub for gameplay "action" (e.g., leaderboards, gifts, badges, progression). We'll tackle gamer identity first, then downstream scenarios such as presence, chat, invitations, social play, and monetization. We'll partner closely with Oculus to create common services, aiming for an initial partner test in H2.

DATING

We want to be the best place to start a meaningful relationship. Today there are 130M MAP (ex China) using dating apps and our goal is to become leading online dating service in the world by the end of 2020. In H1 we launched to an additional 16 countries across Latin America and South East Asia, bringing our total reach to 19 countries. We believe we've found PMF in existing markets (Colombia, Thailand and Canada) with 1M WAP (+37% m/m growth) and 70-80% w/w retention. We also see early evidence of top-line impact (+0.4% FB App sessions, +0.2% FB4A DAP) in those 3 countries from our 2.3M Dating users (out of 100M total FB MAP), with gains coming from younger cohorts and less engaged users. We still need to see if we can scale this impact as we extend reach beyond early adopters. Finally, we see a real-world impact as well with 4M matches, ~70K friendships created, and 30+ Major Life Events per week attributed to the Dating product.

Our focus in H2 is making progress in mature online dating markets and surpassing incumbents like Tinder. For example, in Canada we estimate our penetration rate to be of ~3% (270K Dating WAP) versus Tinder at 12% (900K WAP). We're investigating 3 levers to build a stronger position there (ahead of our launch in the US, EU & Australia in H2): improving brand awareness, activating tenured FB users to try the product, and creating better inventory in less populous regions.

LOCAL

Everyone has a local community. We have two bets here:

- **Local Discovery** from the Events team (recently moved from Business Platform to FB App): Aimed at bringing people together offline by helping you find things to do and people to spend time with in your physical community. Today 200M people use apps that support some but not all of these needs. In H1, we have been focused on bringing the dedicated Local App experience - where we've aggregated popular local features around events and places with good results amongst early adopters - back into Facebook as a targeted tab, that we started testing and hope to ship globally by end of year. We believe it will have initial product market fit in larger towns and cities.
- **Local News** ("Today In") from the News team: Aimed at bringing people together online by helping you discover and discuss relevant information from your neighborhood. We have seen early product market fit in smaller towns and cities: our current 1.5M subscribers to local news across 5,000 small to medium sized communities in the US and AUS have 40% 28-day retention. In H2, we need to figure out how to find PMF beyond our core base of local news seekers. We're working on adding more local group inventory with the hypothesis that it will help drive a flywheel of community-generated discussion that helps improve reach, retention, and the sense that this product can bring you closer to the people in your local community.

We are still in learning mode on both projects but will work on a cross-linking and/or integration strategy after we better understand fit across different market segments.

INTERESTS

Connecting people to their interests will manifest itself through all above services but can also give rise to services specifically built around interests like a News tab or Voyager.
We first need to ensure we get great public content and that each person sees the content that is relevant to them. This involves a few key areas of investment:

- **Improving public content ranking and incentives:** In H1 we made big improvements, which were a major driver of DAP, sessions, and time. We now optimize for deeper/stronger indicators of value (ex: predicting whether someone will like a video and also watch it) and have started using survey-based models to complement engagement signals (ex: predicting which links people would say are worth their time and which pages they say they would return to Facebook for). All of these were major quality wins and also result in people coming back to Facebook more over time (which is something we've never achieved with prior survey-based ranking approaches). The worth-your-time model also moved sentiment, which no other individual ranking change had done. In addition to improving ranking, we're ensuring original content creators aren't harmed by other publishers misappropriating their content and are rewarded for substantial investments in original content that people love.
- **Bringing back Public figures**: We've made it very difficult for Public Figures to engage authentically with Facebook. Most Public Figures use Pages, which make it hard to produce content, don't have a News Feed to facilitate interactions, and end up being managed by the social media team. Some Public Figures use Profiles but we haven't invested in growing followers for Profiles and Profiles currently don't have access to the tools that large accounts need. We've kicked off "Profile+", which will migrate

all public figures to Profiles in order to make authentic posting/interaction simple and easy. We will also invest in growing followers and distribution for Profile-based accounts.

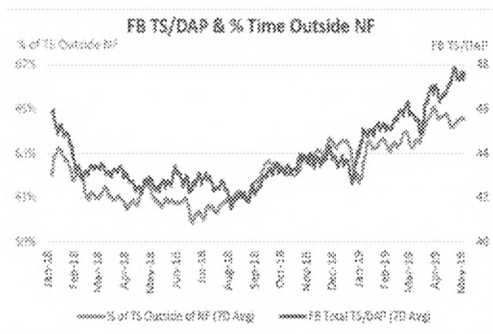
- **Understanding people's interests:** We made progress but there is a long way to go. We have built a system (UIP) to leverage latent user interests that showed promising results for link and video recommendations. By early June we'll have initial ground truth data about our precision and recall for interest prediction to guide our H2 investments. We will likely need to invest more effort in allowing users to actively select and refine their interests in some of our products to improve significantly.

As these pieces get in place, we also plan on building two new services that rely exclusively on interests and public content:

- **Voyager***:* Over 1B people visit Search every week but currently need to enter an explicit query to get valuable results. Google, Spotify, IG, and many other apps are investing in a browse-able, personalized search null state experience and we believe this is a good fit for Facebook as well. The Voyager project is an interest-first content experience that allows you to follow your favorite interests and discover, browse and connect with the best content and communities in each. It's available as a small test in the Philippines to assess early product market fit. In H2 we will scale to a few more English-speaking countries as we hit our bar for content relevance and engagement.
- **News tab:** We believe ~28M engaged US news DAP want more news beyond what News Feed provides and would potentially visit a dedicated news surface. The global market for news apps is >400M DAP (growing ~23% YoY), with 76M DAP in the US. We'll launch a tab in the US in H2 that leverages curation to ensure a quality experience at launch on par with Apple or Google News. We'll invest in improving personalization of interests and social features like Groups to differentiate our experience going into 2020 and expand to a limited set of markets outside the US. While our primary goal is to build a retentive consumer product, we're also investing $29M in 2019 to license the catalog for ~35 US publishers to strengthen our relationship with them.

5. Monetizing the app

Facebook App revenue is targeted to grow to **$22.9B in H1'19,** maintaining the same growth rate as H1 and decelerating from previous years. This represents **~51% of ad revenue growth** for FB Inc in 2019 (same as 2018). Impact of ads on user metrics continues to be within guardrails (less than 0.55% DAP and 2% sessions) despite growing revenue thanks to gains in ads quality along with a stable ad load.



Although short-term FB app revenue metrics look positive, there are headwinds as supply growth slows, competition is pricing brand advertisers out of Feed, and signals are getting more limited. We also see a shift to surfaces with lower monetization efficiency, as time spent outside of News Feed continues to increase. **Stories, Watch, Groups, Marketplace, Gaming, Instant Articles and Search** are forecasted to grow to 19% of FB App time in Q4'19 (15min/DAP vs. 5 min/DAP in Q4'18). This is expected to contribute +**$1.7B** of growth in 2019 (25% of FB app's revenue growth). Monetization of new businesses in the app is beginning to scale - Watch is now at $1.2M/day (from $500K/day last half) and Marketplace at $3.1M/day (from $1.5M/day). New businesses sustaining partners are starting to show product market fit. Instream Video rev share is now an open program (43 countries) with $2.2M/day and 4.7K pages making $1K+/mo. Brand Collabs is at $1M/day and the Brand Collabs Manager (product connecting brands and creators for deals) is now open to 1.3K brands and 3K partners in the US, UK and CA. We will continue to build out these businesses in H2.

Looking forward to H2

- **Increasing value**: With Ad Score gains from core ranking becoming harder, format optimizations and product ranking are contributing significantly to overall value growth (~ 5-6 pts of adscore gains by H1-end). We will continue investments in these areas, prelim goals target 4.8pts of non-ranking ad score gain, $1B from Lead Ads and $11B from Video Ads in H2 2019.
- **Growing supply**: Future revenue growth is constrained by organic trajectory of the products (e.g. stories, commercial intent queries for search) and ad load limitations in NF. In H2, we will continue to invest in monetization efficiency and plan to accelerate supply growth in NF via ad load increases by allowing ads with a minimum of 3 organic posts between them (vs 4 today)
- **Improving producer unit economics:** Our gap with competing platforms (e.g. Youtube, Twitch) is between 4x - 20x for the original, high-integrity producers (creators, gamers and publishers) we most want to reward, with ~80% of the gap coming from lower distribution. We will continue partnering with Feed and Video teams to close this gap.
- **Monetizing Groups**: Monetization for groups has proved to be more complex than anticipated. Although this work won't deliver material revenue in H2, we will double-down to unblock as it enables material growth in 2020+ (2023 LRP at $2B+ from regular and branded content ads).

Discussion topics

- **Services on FB vs Messaging:** A big part of our strategy is to build new social services. We believe we should focus the FB app on services that make sense for your full friend and network graph, while services built on Messaging should focus on private, smaller group dynamics (payments, small group sharing, etc). Are we comfortable with that as an end state?
- **Stories Interop:** Related to the prior question, broadcast sharing is a core Blue use case, so should we try to do Stories interop in Blue first?
- **Interests**: In order to succeed in interests, we will need x-family infrastructure to manage privacy preferences and bridge domain specific interest graphs (Groups, Ads, Feed, IG); we're in talks with CPS on this but need to prioritize this across Inc.
- **Teens:** Are we comfortable with not focusing on teens in developed markets?

Appendix: Headcount summary by product group

FB App - Filled/Open HC			
Product Group	Filled	Open	FY19 Budget
Feed and Stories	603	118	721
Marketplace	387	127	514
Facebook App Monetization	319	44	363
Video	286	71	357
Product Foundation	284	70	354
Search	266	30	296
Groups	122	55	177
Identity	70	28	98
Games	68	20	88
Events	59	10	69
News	46	15	61
Facebook App XFN	2	12	14
Total Engineering	**2512**	**600**	**3112**

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