

AMENDED Exhibit 16

PLAINTIFFS' OMNIBUS OPPOSITION TO DEFENDANTS' MOTIONS FOR SUMMARY JUDGMENT

Case No.: 4:22-md-03047-YGR

MDL No. 3047

In Re: Social Media Adolescent Addiction/Personal Injury Products Liability Litigation

Message

From: [REDACTED] [/O=THEFACEBOOK/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=[REDACTED]]
Sent: 10/6/2018 5:03:37 AM
To: market_strategy_updates [REDACTED]
Subject: Market Strategy Updates - 10/5/18
Attachments: image010.png; image005.png; image006.png; image008.jpg; image013.png

Coming soon - Join our Market Strategy Talk on Oct 18 to learn more about the Rise of China's Tech Influence.

Highlights

1. **Ecosystems - Current State of Stories in the US:** In the US, there are ~9B Stories consumed and ~70M produced daily. Snapchat is seeing decline in both production and consumption volumes while FB family is growing in volumes and share. Snapchat's decreasing share is caused by a combination of (a) flat DAP, (b) decreasing Stories adoption, and (c) flat/decreasing frequency. That said, private messaging is rising as the top category in Snapchat, but that rising importance is faced with declining participation. This might indicate opportunities for FB family to understand the path between Stories and Messaging and explore if we can use the strength in the former to win in the latter as well.
2. **Ecosystems - US User Lifetime Value (Phase 1):** Based on a conservative set of assumptions, we find the lifetime value (LTV) of users in the United States to be between \$200 and \$350. People who join FB as 13 year-olds have an LTV of approximately \$350, higher than all other teen ages (13-18), due to their very high long term retention. We should acquire teens as young as possible. Phase 2 of the work will explore how the assumptions may change..
3. **Groups - Funding Creators and Communities, Patreon Hit ~\$200M in Dollars Raised:** Increasing retained subscriptions and up selling subscribers to higher tiers are key drivers of Patreon's run rate. Patreon has 1M subs and attracts 80,000 new subs each month, paying an average of \$14.70 per month. 52% are in the \$5-19.99 tier, which is surprisingly growing faster than the <\$5 tier. Video is the #1 category, followed by Music and Writing. Thus, we recommend (a) optimizing for 80%+ m/m retention as a key success metric, (b) a more ambitious \$ goal in 2019 to unlock the needed investments in Creator support and education, and (c) acquiring Creators as a one-stop shop / single Family of apps and products to drive differentiation.
4. **Feed & Sharing - Collaborative Sharing Market (Phase I):** Most collaborative sharing products today have low adoption. Segmenting collaborative sharing space based on contributor & audience size, FB Stories should focus on medium and large group segments, with large group collaboration offering the most distinctive use cases. To succeed in collaborative sharing, FB Stories need to overcome 3 key adoption barriers: (a) high effort required to understand the products; (b) unclear or infrequent targeted use cases; (c) insufficient differentiation or value add vs. Group Chat.
5. **Video - YouTube Android App Time Spent Share:** TSS increased from 8% to 21% since 2015. As a comparison, other Video and Media apps have experienced moderate growth. At the same time, FB App's TSS has dropped from 20% to 12%.

Details

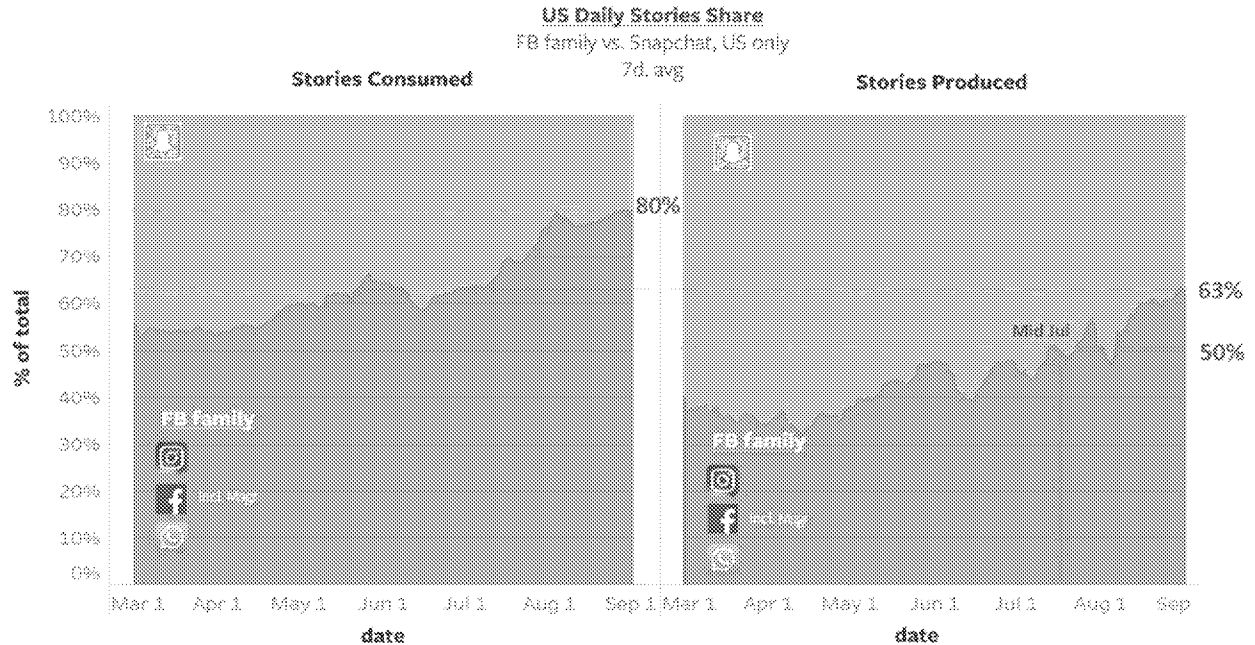
1/ Ecosystems - Current State of Stories in the US

- Context

- From increasing competition to ongoing concerns around growth, Snapchat is being pressured across multiple dimensions. This has been exacerbated by its controversial redesign earlier this year. As Facebook doubles down on a Stories-first strategy, we want to use this timing to take a holistic look at US Stories market in the last six months since Snapchat's redesign.
- Key questions:
 - What is overall Stories volume in US and how is this changing?
 - What is relative position of FB family vs. Snapchat in Stories?
 - What are key drivers (and open questions) behind these observations?
 - What are potential implications and opportunities for FB?
- Insights
 - In US, there are ~9B Stories consumed and ~70M produced daily
 - While overall still increasing, both consumption and production have recently declined
 - FB family rising vs. Snapchat weakening as Stories platform
 - Snapchat is the main reason that drives the decline in production and consumption volume
 - FB family is growing in both volume and share and we don't see apparent slowing down trends. Within FB family, IG stories drive most of the growth momentum in US
 - Drivers behind
 - SC's decreasing share is caused by a combination of 1) flat app DAP, 2) decreasing Stories adoption, and 3) flat/decreasing frequency
 - On the other hand, FB family, especially IG, is seeing growth across the three components above
 - In fact, IG Stories production participation rate is still lower than SC's level in Mar, signaling further space to grow before hitting a ceiling
 - Snapchat Stories vs. Chat(messaging)
 - Chat has surpassed Stories as the top category, indicating a potential primary value shift to more private sharing
 - However SC's ability to successfully shift strategy in short term might also be limited as participation rates for Snap and Chat are also declining
- Implications:
 - Leverage FB family's current strength to convert and engage fleeing Snapchat Stories users
 - Increase marketing campaigns to target Snapchat demographics, especially marginal users
 - Attract and create more incentives for production(e.g. collaborate with influencers/brands on interactive events, hashtag challenges)
 - Continue to leverage WhatsApp Status in developing markets to suppress SC's ability to look for new growth outside its current primary market
 - Understand roles and importance of Stories and Direct Messaging - User research to understand why SC users are shifting to direct messaging
 - Is it a function of SC product choices or reflective of fundamental shifts in user preferences
 - Understand path between Stories and Direct Messaging for FB family
 - Will traffic of Stories eventually consolidate into messaging traffic? If so, should we reframe Stories strategy in a Messaging destination context? If not, how do we view the relationship between Messaging and Stories? How do we create more synergies between the two products?
- Link <https://fb.facebook.com/groups/MarketStrategyInsights/permalink/2139106636311643/>
- POC: [REDACTED]

What is relative position of FB family vs. Snapchat in Stories?

As a result, FB family has grown US share and recently took the lead in production over Snapchat



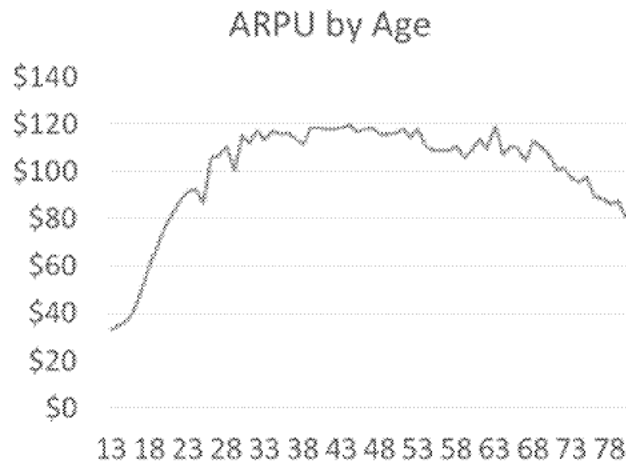
*data source: internal +MINT

2/ Ecosystems - US User Lifetime Value (Phase 1)

- Context
 - As the Youth Team launches Big Bets to address Facebook's teen growth and engagement issue, we want to make more informed decisions on how much to spend on acquiring and engaging teens. A major input is the lifetime value of each user, which provides a benchmark for decision-making. While the focus of this work is for the Youth team, this is generalizable to non-Youth and non-US areas as well
 - Collaborating with various functions, including finance and DS/DE, we created a lifetime value model which leverages average revenue per user, long term retention, and weighted average cost of capital as the in key inputs
 - This is Phase 1 of the work, which establishes the model. Phase 2, which dives more deeply into the assumptions is forthcoming; it is likely that LTV will rise in Phase 2
- Insights & Implications
 - Based on a conservative set of assumptions, we find that lifetime value (LTV) of users in the United States to be between \$200 and \$350
 - The upper range of LTV should rise as we dig deeper into the assumptions for Phase 2 of this analysis
 - Using age as the x-axis, we see a smiling curve. Early teens and mature adults are most valuable
 - This is largely driven by the fact that young adults and intermediate adults have lower long-term retention on Facebook
 - That in turn may be driven by higher competition from other social media (e.g., Instagram, Snapchat) or that the recent cohorts acquired at those ages are more marginal users (e.g., late to internet, lower device quality & connectivity)
 - Note that these LTV estimates are for people who are **currently** at those ages. These estimates **do not** speak to, for example, the LTV of current 13 y/o's (born in 2005) when they become 23 y/o's (in 10 years)
 - ARPU by age affinity in the United States starts at ~\$30 per year for age 13, then rises to about \$120 for adults by age 30, plateaus between 30 and 65, and then drops again beyond age 65

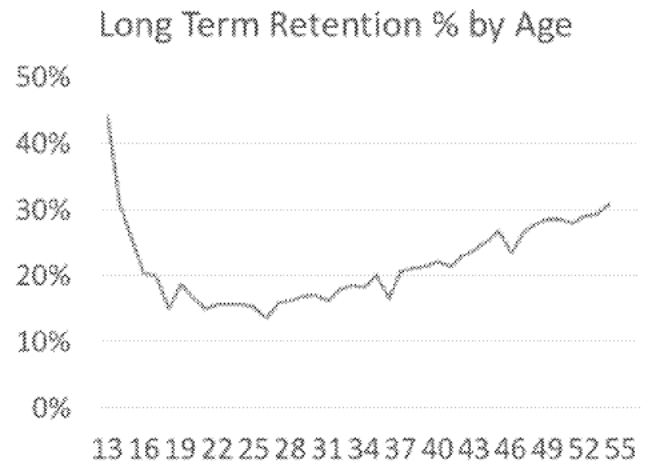
- Long term retention is highest at 40%+ for age 13 and then drops to about 15% in the 20s and then rises to roughly 30% in the 50s
- Link: <https://fb.facebook.com/groups/MarketStrategyInsights/permalink/2138996809655959/>
- POC: Robert Chen

Assumptions



- * ARPU by age is based on August 2018 FB Inc. revenue in the United States and Age Affinity age
- * Special thanks to [REDACTED] who helped with ARPU by age

Source: Market Strategy Analysis



- * Long term retention by age based on people confirmed in 2016
 - Derived using MAP retention at 500 days and 1,000 days
- * Special thanks to [REDACTED] who created the long term retention dataset

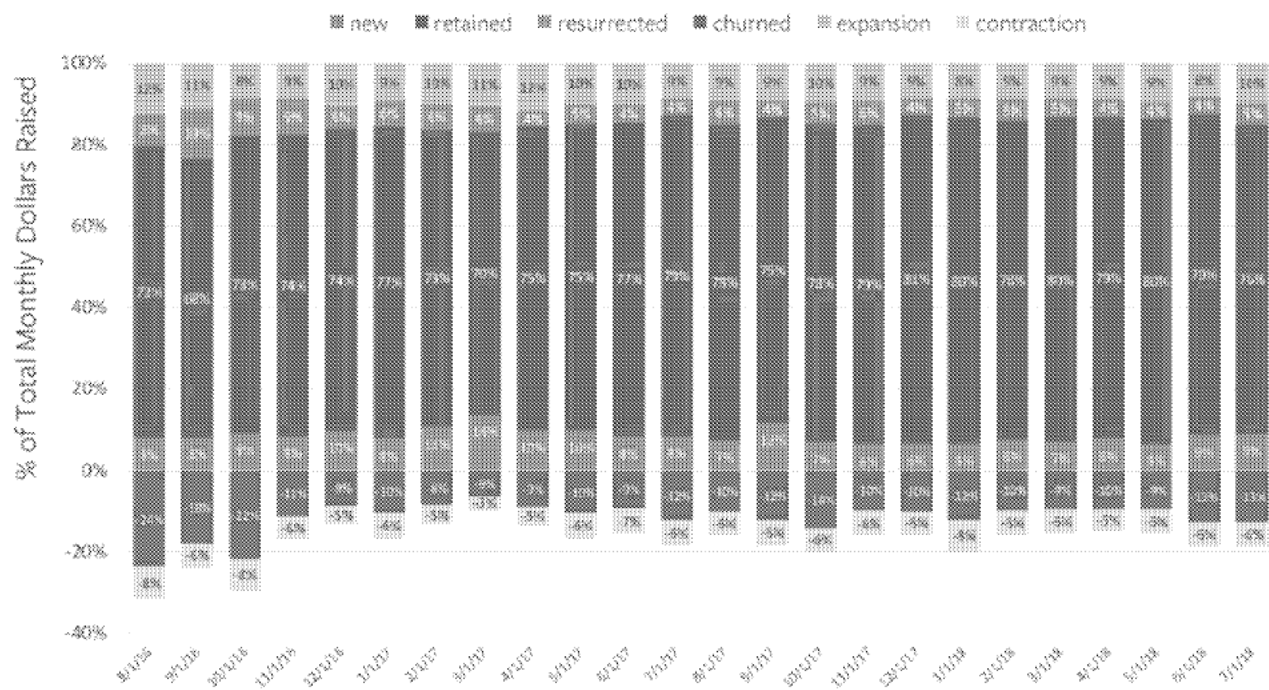
3/ Groups - Funding Creators and Communities: How Patreon Hit ~\$200M in Dollars Raised

- Context
 - As we open up Fan Funding and Subscription Groups this half to more Creators and Admins, understanding Patreon's metrics and playbook helps us refine our strategy in the subscriptions space
 - We know from previous analysis that Patreon has hit a ~\$190M run rate and now has more patrons than Kickstarter and Indiegogo combined. We wanted to dig deeper and understand the underlying drivers of these results.
- Insights & Implications
 - Increasing retained subscriptions and up selling subscribers to higher tiers to offset churn are key drivers of Patreon's run rate. Out of the ~\$15.5M / month raised from patrons: 79% of \$ subscriptions is from retained subs from the previous month, 9% is from expansion subs (tiering up), and 5% is from resurrections, and 8% is from new subs acquired.
 - 11% of \$ subscriptions on average churns each month. This is high, yet is offset by new subs, expansion, and resurrection. Quick ratio, defined as $(\text{new} + \text{expansion} + \text{resurrection}) / (\text{churn} + \text{contraction})$ is 1.5x for Patreon vs 1.3x for Spotify. Patreon is not a leaky bucket thus far.
 - Conversion rate from MAP to new subs is 0.7%, equal to ~80k new subs/mo. Patreon's m/m user retention continues to increase from 81% in 2017 to 88% today. Subscriber resurrections has stabilized at 5%, and subscriber churn at 10%.
 - 81% of transactions are in the <\$20 tier. 52% are in the \$5-19.99 tier. Surprisingly, it's not the <\$5 tier that is driving growth. The \$5 - \$20 tier account for the fastest growth. This suggest patrons find real value in subscribing to Creators beyond just tipping them.
 - Video is the #1 category by creators and \$ payouts, followed by Music and Writing. A small sampling of the top 20 video creators reveal that 63% of creators have 5+ tiers. Co-creation is a crucial value prop for higher tiers, and this is what likely leads to longer term engagement and up sells to higher tiers: 8 of the

13 offers above \$500 are about being acknowledged as a contributor. Common value props: inform production/future story telling, engage through Q&A and live chats, credited as a producer.

- o What this means for Facebook:
 - We recommend goaling on the following metrics: 80%+ month-on-month \$ retention. For cohort retention, we recommend: M1 = 80%+, M3 = 70%+, M6 = 60%+. Churn should be <10% each month. Up sells / tiering up should be 10% per month (10% of \$ raised each month come from subs getting upsold to higher tiers). \$/Sub should be \$15+ (faster growing tier).
 - We can choose to be more aggressive in our 2019 subscription \$ goals (currently at \$100M) to unlock investment for long term resources that will make FB subscription groups and fan funding successful, such as creator education and onboarding+ongoing customer support - key ingredients of Patreon's playbook.
 - Go-to-market as a Family of apps (FB, IG) and products (Pages, Groups, Events, Subscriptions, Ads Manager, etc) so Creators have a one-stop shop to grow and manage their audiences, given that customer acquisition is a major pain point (and why Patreon is focused on creators with an existing audience and is building an 3P app marketplace). This may require consolidating our creator-facing teams across the Family into a single structure.
- Link: <https://fb.facebook.com/groups/MarketStrategyInsights/permalink/2133428410212799/>
- POC: [REDACTED]

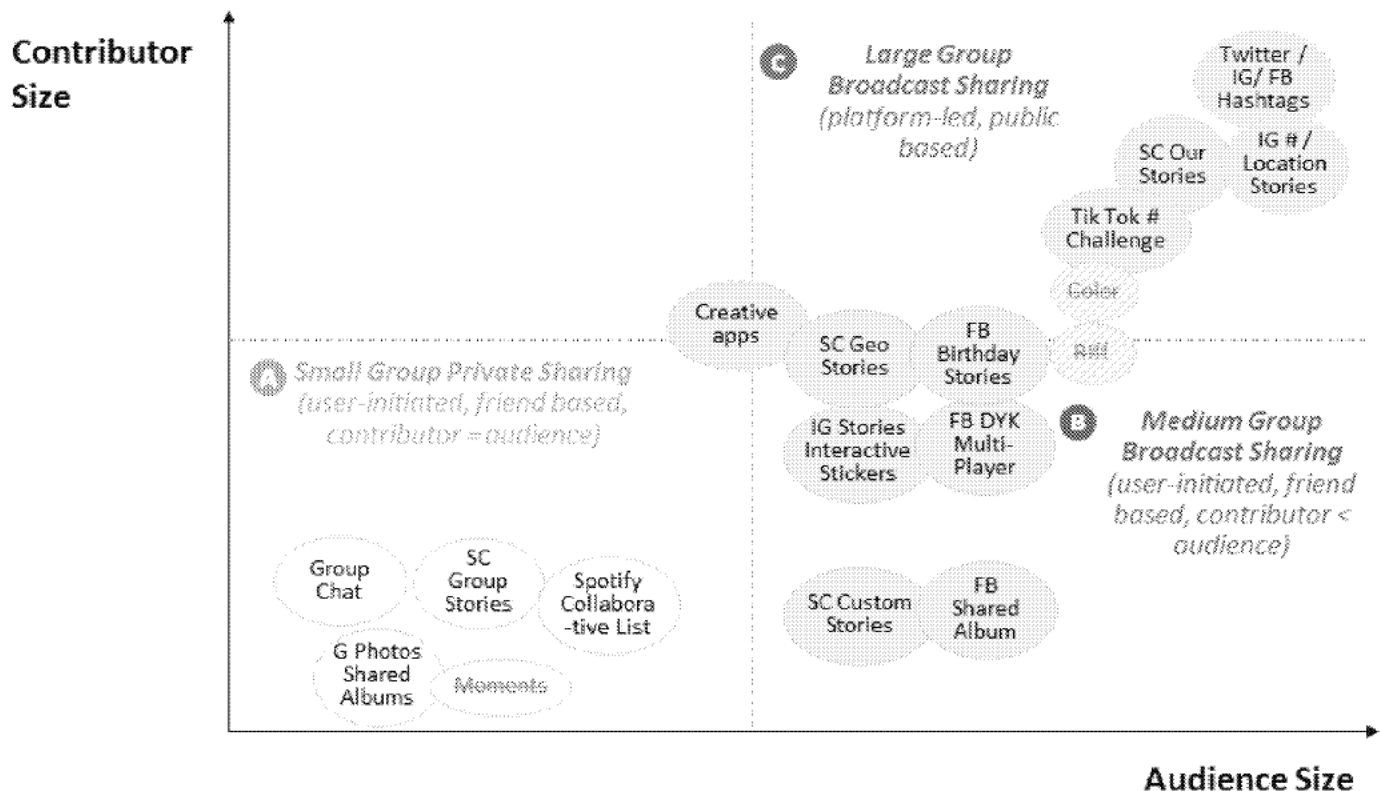
\$ Composition: Patreon is dependent on retained subs, new subs, and increasing \$ per sub (tiering up) to offset churn



4/ Feed & Sharing - Collaborative Sharing Market (Phase I)

- Context
 - o FB Stories is exploring collaborative sharing as a strategy to create a differentiated & unique Stories experience. This market analysis aims to identify key opportunities for FB Stories in the collaborative sharing space
 - o This is part I of the analysis which provides an overview of the overall market landscape, and a deep-dive into medium group collaboration segment. Part II analysis will deep-dive into the large group segment
- Insights & Implications
 - o Most collaborative sharing products today have low adoption, due to 3 key adoption barriers
 - The products are hard to understand, and/or require too much effort
 - The targeted use cases are unclear or not frequent enough

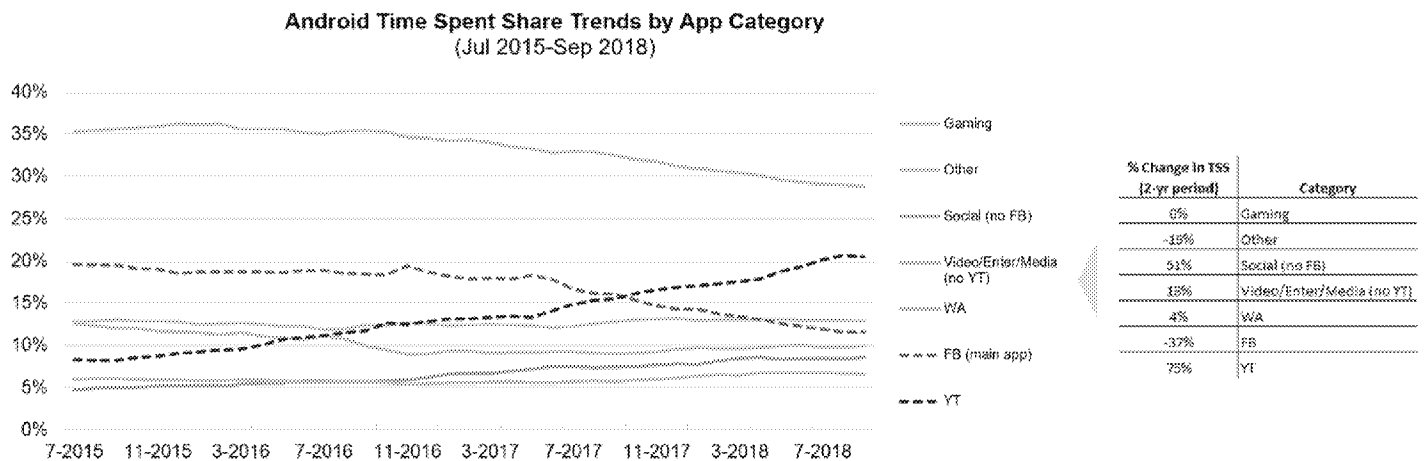
- There is insufficient differentiation or value add vs. Group Chat
- Collaborative sharing space can be segmented based on contributor and audience size - FB Stories should focus on medium and large group segments
 - Small group private sharing – hardest to differentiate vs. Group Chat
 - Medium group broadcast sharing – potential to add value
 - Large group broadcast sharing – most differentiated use cases
- To succeed in medium group collaboration, FB Stories should address the key barriers by
 - Simplifying creation process through auto-generating contributors & lightweight formats, with opportunity to further simplify privacy & saving options
 - Starting with very specific use cases to educate users about collaborative sharing formats and offer tailored solutions
 - Differentiating through new content formats, and better curation & storytelling support
- Link: <https://fb.facebook.com/groups/MarketStrategyInsights/permalink/2139481569607483/>
- POC: [REDACTED]



5/ Videos - YouTube Android App Time Spent Share (TSS) Increased from 8% to 21% during 2015-2018.

- Context
 - The analysis intends to provide a long-term perspective on time spent share trends between Facebook and YouTube (YT).
- Insights & Implications
 - In the last two or so years, YT's Android TSS has increased from 8% to 21%. Video and media apps that are not YT have experienced moderate growth. The next two largest video apps after YT are MX Player (1.1% of TSS) and Netflix (0.5% of TSS).
 - At the same time, FB's (the main app) TSS has dropped from 20% to 12%.
 - TSS trends among top countries like US, IN, BR, ID, and MX mirror the global trends for the main FB and YT apps.
 - Mobile video remains a massive opportunity for Facebook.
- Link: <https://fb.quip.com/iKz2AHb3BVSi>
- POC: [REDACTED]

Since July 2015, YouTube's Android time spent share has grown from 8% to 21%.



Market Data Strategy

- **Innovate Pillar**
 - **App SDK Intelligence:** New project to create a methodology to understand SDK usage in apps. This helps diligence developers by understanding adoption of SDKs in areas like AR/VR and geo location.
- **Explore Pillar**
 - iOS Multiple Data Vendors project: Received Data from 4th Partner: Verto Analytics for US and UK markets.
 - New Data Partnerships:
 - Verto Analytics: Talking to Verto on possible partnerships for gaming and cross PC App usage
 - Jumpshot: Preliminary discussions with Jumpshot on possible data partnerships. This encapsulates ~50M Android Panelists data.
- **Scale Pillar**
 - **Latency Dashboard:** Completed [dashboard](#) to understand web search latency, as compared to other competitors like Google.
 - Others: Starting to ramp up work on Annotations Project and Growth Drivers Dash.

Market Strategy Team

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