AMENDED Exhibit 846

PLAINTIFFS' OMNIBUS OPPOSITION TO DEFENDANTS' MOTIONS FOR SUMMARY JUDGMENT

MOFFETTNATHANSON RESEARCH

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April 2, 2018

Snap, Inc. (SNAP), Facebook (FB), Twitter (TWTR)

Snap Focus Group Part II: "Who Were the Beta Testers?"

Summary

One year ago, as Snap was gearing up to go public, we hosted focus groups with three distinct cohorts – middle school students, high school students, and young college graduates – to understand what Snap meant to its most ardent users. Given the popularity of these focus groups and the recent uproar around Snap's app redesign, we thought it would be topical to run these groups again to check the pulse of Snap's key demos.

Our first takeaway is that Snap's redesign has clearly been a bust. All three groups were uniformly disapproving of it, with a range of complaints including the new ordering of contacts, Stories losing their own page, it now being too easy to Snap the wrong person, too many alerts and too much Bitmoji, and the loss of best friend lists. A year ago, Snap was widely described as "fun." This year, the key word was "annoying"! As a result, participants' time on Snap was flat to down significantly, with the most concerning part, from a business perspective, the fact that Stories engagement appeared down meaningfully while Discover, like last year, was a complete afterthought. Betting on Snap's ability to monetize messaging is a gamble we wouldn't want to take, and solidifies our bear case here.

Our second takeaway is the fact that while Snapchat retains its stranglehold on the middle school cohort, Instagram has clearly become a more significant contender for the high school and post-college cohorts' time, with it being viewed increasingly as a replacement platform, excluding direct messaging functionality. In fact, while Snapchat was the most used app amongst younger demos, it didn't register as #1 for any of the post-college participants as Instagram and Apple Messenger stole the show. Instagram Stories seems to have really made a dent on Snapchat's mindshare around video and ephemerality, particularly given backlash around the redesign, and outside of some edge cases (like "posting while drunk" only on Snapchat), Instagram Stories appears to be a significant replacement.

Our third takeaway is that core Facebook continues to be ignored by these demos. None of our participants mentioned using the platform often, while Facebook barely came up at all in sessions. Similar to last year, WhatsApp, Messenger, and Twitter were also largely afterthoughts, with the latter being used by only a few participants for news. If there was a surprise winner, it was the app VSCO, which was mentioned often, as well as more love shown for Netflix and YouTube than last year, plus mentions for Pinterest and GroupMe. The CNN app was mentioned way more than we would have expected when users were asked where they got their news.

In the midst of the maelstrom from the Snapchat redesign, our battery usage survey now show a drop in Snapchat usage compared to last year for the youngest demo (37% to 31% of battery life), and slight declines for the post-college group as well (16% to 14%), though we'd caveat this with the fact that our sample group was small and sometimes the battery life comparisons weren't apples-to-apples (some users saw last seven days of battery usage while others saw last two days, for example). In terms of brand association, Snapchat was increasingly perceived as a burden. Across the other social media platforms, we didn't see that much change vs. 2017 as Facebook is still seen as a platform for "old people", Twitter is still associated with news and Trump, and Instagram remains a popular way to share photos.

U.S. Internet Research

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Investment Implications

We reiterate our Buy ratings on Facebook ($220 target price on ~17X 2018E adj. EV/EBITDA), and maintain our Sell ratings on Twitter ($19 target price on ~10.5X 2018E EV/EBITDA) and Snap ($10 target price on ~5.5X 2020E EV/Revenue).

Analysis

One year ago, as Snap was gearing up to go public and investors had just heard from Snap management and the analyst community, we realized they had yet to hear from the constituency that matters most—Snapchat's most avid users. As a result, we decided to host three one-hour focus groups in New York with three distinct cohorts of users–middle school students, high school students and young college graduates. Those focus groups wound up being such a hit that we ran them again this year, which seemed particularly timely given the uproar around Snap's recent redesign and the growing question of whether Snap's business is finally seeing a sustainable positive inflection. Like last year, each group contained 6-12 participants and the surveys were conducted by TELL-IGNITE.

Middle School Group

This year the middle school group consisted of 8th graders who were 13 and 14 years old. Most participants listed Snapchat and Instagram as their top two apps—other apps within the top five were Pinterest, VSCO, YouTube, Spotify, and gaming apps like Rider. While Facebook was mentioned, like last year, it was often associated with "old people." When asked about TBH, a respondent replied that it was a fad that lasted for "two weeks."

Snap's recent redesign was universally panned by the group; with most saying they now use Snapchat less. Some reported fewer visits to the app but longer sessions once opened. Disdain for the update came in three flavors:

1) Reordering of contacts – Since the update, the list that appears is not organized by who users chatted with most recently, so it's easier to accidentally message the wrong person.

2) Snaps – It's now easy to accidentally publicly message something that was meant to be shared privately.

3) Stories – it is now more difficult to find friends' private Stories, users frequently get alerts (prompting them to open the app) when it's merely a Story update (annoying), and users are often subscribed to Stories they didn't sign up for.

[NOTE: Over the past week (and after we finished our focus group work), Snapchat's design was adjusted to allow users to separate their social media page into three tabs: Stories, Groups and All. We are planning to re-engage with our focus group participants to see if these tweaks have improved their use and enjoyment of the product.]

Streaks, which this group loved last year, were only used by a few this year and loathed by the rest. Most found streaks to be "so annoying" and said they could be stressful to keep going. Users felt that Maps felt "really creepy" and can also unintentionally make people feel left out.

When asked about ads, many reported effective ad targeting from desktop searches to their Snapchat app (the wonders of re-targeting). When prompted, the group didn't like ads on Snapchat (for the ones who actually reported seeing them, which wasn't all) but some admitted to liking movie trailers, and a few other miscellaneous ads. Males in this group enjoy watching Bleacher Report and ESPN on the Explore tab as well.

The group would like Snap to go back to its old design, and want Stories to be part of a separate tab where celebrity Stories should be next to Stories from friends, while the option to subscribe to Stories seem to be a feature that wasn't well liked. Despite the redesign, most respondents still loved Lenses, Geofilters, Memories, and My Eyes Only.

High School Group

Our second group featured high school aged students in grades 10 through 12. In this group, Snapchat and Instagram were reported as the top two apps. VSCO was mentioned again, along with Twitter, Facebook, Tumblr, Pinterest, and GroupMe. Similar to the middle school group, when prompted, Facebook was described as an app for an older demographic and one used for colleges or "prom group chats."

This group reported deep engagement with Snapchat (all reported Snapchat as one of their top two apps) but also said Snapchat was "stressful" and "distracting." One participant remarked that its addictiveness had affected her academic performance. Although this group uses Snapchat often, they also reported it as a major source of angst, unlike other apps. Most agreed there is a pressure to respond on Snaps unlike with regular texting, and they spend a lot of time on Snap merely clicking through to the next screen—either trying to get through Stories they don't care about, or move past ads.

The group also rejected Snapchat's redesign, listing the following complaints:

1) Bitmoji is too prevalent and childish
2) Users can no longer see other people's best friend lists
3) Similar to the first group's feedback, it's easy to Snap the wrong person, sometimes users unintentionally end up sending something to a random person, and the ordering of chats is problematic
4) Stories engagement has declined dramatically as a result of the redesign

Most use Snapchat about the same amount as they did prior to the redesign, while a few said they use it less. To Snap's benefit, users said nothing could completely replace Snapchat as Instagram's direct messaging feature is "creepy," however if Snap were to go away, they would shift their time to Netflix, YouTube, and VSCO.

When asked about ads, the group agreed they all try to skip through them. Very few remember or pay attention to ads, other than Promoted Filters, which they say are "fine."

Post-College Group

The last group was comprised of post-college participants who all had full time jobs or were in graduate school. Similar to last year, this group had significantly less free time than the younger groups and placed a higher premium on their interactions. Interestingly, not one member of this group listed Snapchat as their most used app, but it did fall into the second spot for a few. Instagram was the top used app for most of the group, with two participants listing iPhone Messenger as their top app. Other apps mentioned were LinkedIn, GroupMe, WhatsApp, Pinterest, and dating apps like The League and Hinge.

This group was much more vocal in their contempt for Snapchat, and while some acknowledged positive features like Snap Maps, which can be useful, most were highly engaged on Instagram, and said they could easily leave Snapchat and have no loyalty. They acknowledged the direct competition between the two platforms, and said if Snap got better, Instagram would lose out. Their complaints about the redesign were largely covered by the previous groups and included:

1) The former version was "so great" while this version is just "so annoying" as it was not user friendly. As one user put it: "Who were the beta testers for this?"

2) Old messages come up for no reason

3) Participants think nobody looks at Stories anymore

4) Tabs (for those who have them) were another point of friction

5) Sponsored news and content is no longer desirable to read because it's mixed in with celebrity stories, which some participants were completely not interested in

While the group acknowledged that Snapchat had become much less unique as Instagram has much of the same functionality now, they did describe certain use cases which only happen on Snapchat, like intimate and fleeting connections (drunk messaging, group messaging, and live chatting). Instagram was viewed as a public forum with more permanency.

This group seemed to notice ads more but didn't find them particularly effective on Snapchat. Like the previous groups, they said ads seem to appear frequently, but noted that targeting is just not very good on Snapchat compared to other platforms: "Instagram is good at what you like."

Battery Life Reveals Snapchat Still Popular

Like last year, we asked participants to check which apps used the most of their phones' battery life. While there was some divergence in battery usage metrics available to participants (some saw the past 7 days and others only a few hours), the delta between age cohorts remained significant.

Snapchat accounted for ~2X as much battery life for the high school and middle school cohorts as the post-college cohorts (see Exhibit 1). On average, Snapchat battery usage was 40% for high schoolers, 31% for middle schoolers, and 14% for post-college participants. Given outliers in the data (one high school participant used 80% of battery on Snapchat!), we also looked at medians which show similar results.

Exhibit 1

Snapchat Battery Usage Responses

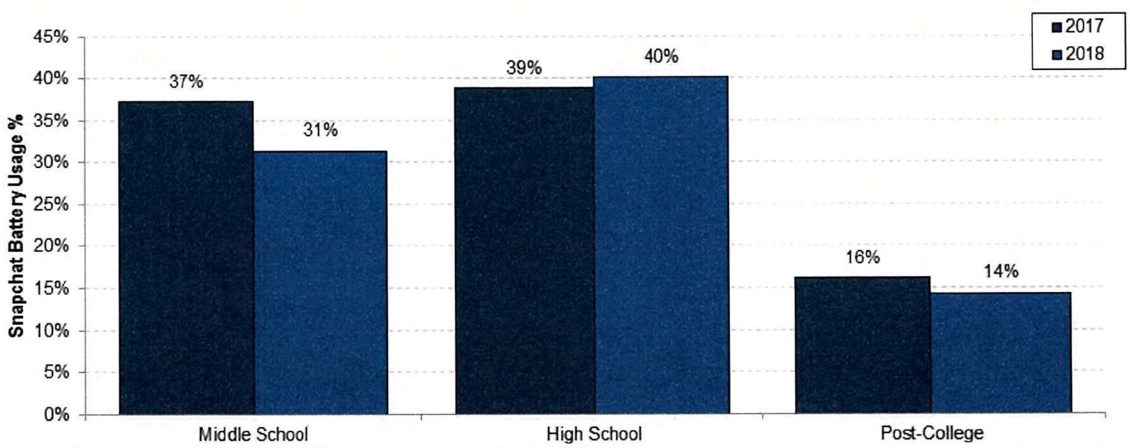
Middle School Usage		High School Usage		Post-College Usage	
Participant	% Battery Usage	Participant	% Battery Usage	Participant	% Battery Usage
#1	56%	#1	80%	#1	20%
#2	42%	#2	53%	#2	18%
#3	41%	#3	45%	#3	17%
#4	41%	#4	25%	#4	15%
#5	39%	#5	23%	#5	8%
#6	28%	#6	15%	#6	8%
#7	26%				
#8	25%				
#9	17%				
#10	16%				
#11	14%				
Average	31%	Average	40%	Average	14%
Median	28%	Median	35%	Median	16%

Source: TELL-IGNITE, MoffettNathanson analysis

Despite the pushback on Snapchat's redesign, battery usage remained relatively in line versus our March 2017 focus group (see Exhibit 2). The biggest divergence vs. 2017 results was Snapchat average battery usage declined for middle schoolers, which declined six points to 31%, while the post college cohort saw a two point decline and the high school group actually saw a 1 point increase.

Exhibit 2

Snapchat Average Battery Usage 2017 vs. 2018



Source: TELL-IGNITE, MoffettNathanson analysis

What Happened to the Fun?

To get at the ethos of Snapchat, we asked our participants to write down words that best describe the platform. While last year's group described feelings of fun, this year's group described a less enjoyable platform (see Exhibit 3).

The middle school cohort was the most consistent in associating Snapchat with their friends and pictures. Stories became a large topic of discussion this year, although not in the best light, given frustration with the redesign. The high school cohort didn't mention the word fun despite being the top descriptor from last year. Streaks were called out more often, however with a negative connotation along with the social obligation to maintain them. The post-college cohort flipped the script and now associates Snapchat as being annoying rather than entertaining.

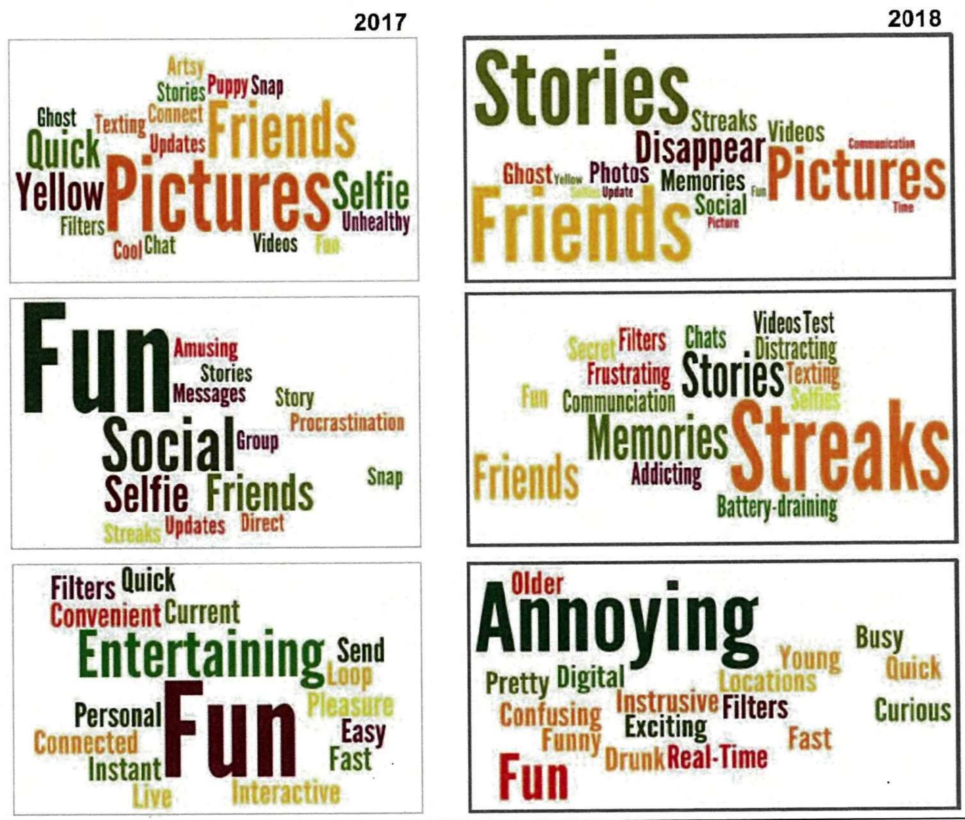
Exhibit 3

Snapchat Brand Association Matrix 2017 vs. 2018, by Age Group

Middle School

High School

Post-College



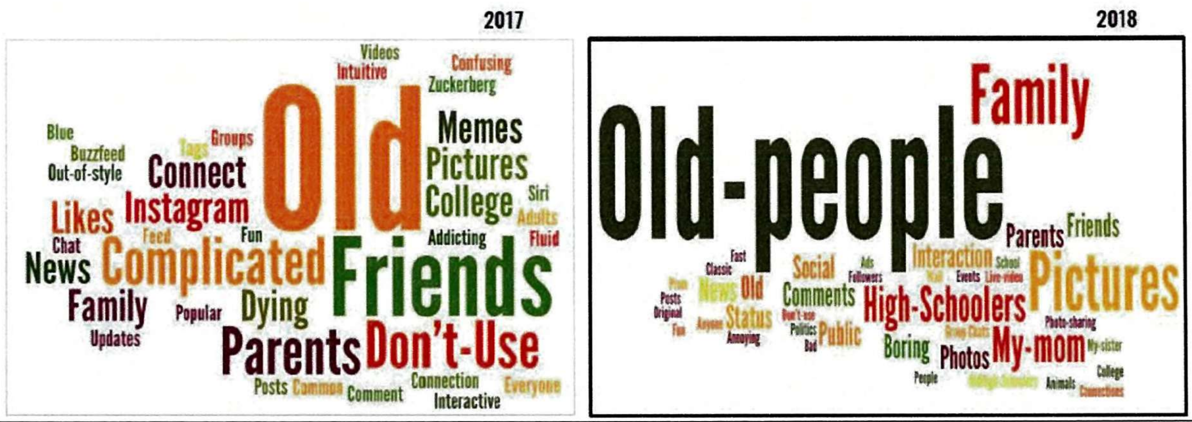
Source: TELL-IGNITE, MoffettNathanson analysis

Facebook = Still Old, Instagram = Snapchat Competitor, Twitter = More Trump

Given the growing angst on Snapchat, have other social media platforms benefited? When asked to describe Facebook, our cohorts continue to believe it is for "old people" (see Exhibit 4). Those who use Facebook do so to interact more with family than friends.

Exhibit 4

Facebook Brand Association Matrix 2017 vs. 2018, All Age Groups

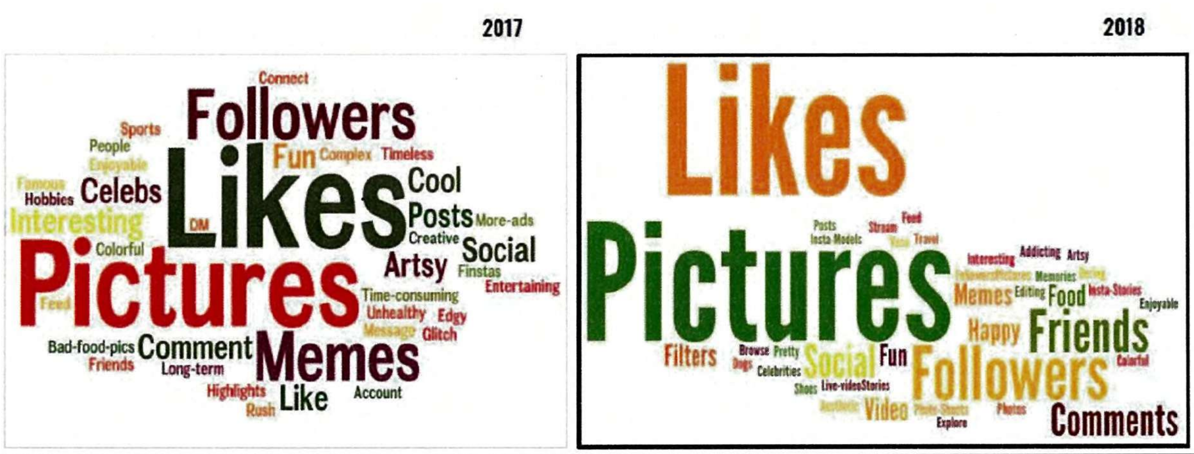


Source: TELL-IGNITE, MoffettNathanson analysis

Instagram has avoided the "older" stigma and is described as being happy and interesting especially among the Post-College cohort, while the association with Likes, pictures, and followers remained top of mind (see Exhibit 5). Functionally Instagram fulfills many of Snapchat's use cases such as sharing pictures and connecting with friends, yet lacks direct messaging interest (some described the use of Instagram's DM feature as "creepy").

Exhibit 5

Instagram Brand Association Matrix 2017 vs. 2018, All Age Groups



Source: TELL-IGNITE, MoffettNathanson analysis

Twitter has increasingly become associated with Trump and news while the notion of fun has receded into the background (see Exhibit 6).

Exhibit 6

Twitter Brand Association Matrix 2017 vs. 2018, All Age Groups

Source: TELL-IGNITE, MoffettNathanson analysis

Despite its recent financial outperformance, we walked away with continued conviction in our Sell call for Snap. There appeared to be universal qualitative backlash around the redesign, as well as some potential quantitative backlash in the form of lower engagement, while Instagram appears to be gaining. In addition, given what sounded like even less engagement with Stories and the Discover tab, advertising opportunities may be increasingly hard to find for advertisers longer term. In addition, we walked away incrementally concerned about core Facebook's position amongst those 25 or younger, and believe this component of Facebook's bear case will only continue to intensify over the next few years.

Risks

Snap, Inc.

Upside risks for Snap, Inc. include: Better advertising growth, faster advertising budget shifts from traditional media to digital and from other digital platforms to Snap, faster user growth, significantly improved targeting and measurement mechanisms for advertisers, engagement and monetization upside from new creative tools, better onboarding for older cohorts, new ad formats, and higher ad loads, faster than expected cost leverage, acquisition.

Downside risks for Snap, Inc. include: Macroeconomic factors impacting broader advertising budgets, slowing user growth driven by an inability to improve its appeal to older demographics or an inability to grow outside of developed markets due to bandwidth constraints, existing user fatigue and share losses to other social networks driven by initiatives like Stories on Instagram, advertiser losses driven by frustration with Snap's scale, overexposure to younger demographics, or less robust direct response tools, inability to generate leverage and achieve profitability due to high infrastructure and bandwidth costs, execution risk driven by all voting control belonging to two inexperienced co-founders, user generated content risk.

Facebook

Upside risks for Facebook include: Better advertising growth, faster advertising budget shifts from traditional media to digital, faster user growth internationally or engagement growth globally, better monetization from improved targeting, measurement, and attribution as well new formats like video, increased ad loads and ultimately revenue from properties such as Instagram, WhatsApp, or Messenger, better expense controls.

Downside risks for Facebook include: Macroeconomic factors impacting broader advertising budgets, user fatigue on the core Facebook platform, an inability to monetize properties like Instagram, WhatsApp, or Messenger, revenue share losses in native or video to companies like Google, Twitter, or Snapchat, regulatory risk (particularly around privacy), overinvestment in moonshot initiatives like Oculus Rift.

Twitter

Upside risks for Twitter include: Better advertising growth, faster advertising budget shifts from traditional media to digital, faster user growth and engagement (both on and off-platform) from improved onboarding and education initiatives, significantly improved targeting, measurement, and dynamic creative mechanisms for advertisers, engagement and monetization upside from new ad formats like video, higher ad loads, faster than expected cost leverage, acquisition.

Downside risks for Twitter include: Macroeconomic factors impacting broader advertising budgets, slowing user growth driven by an inability to improve onboarding, existing user fatigue and share losses to other social networks driven by initiatives like Instant Articles on Facebook, advertiser losses driven by frustration with Twitter's scale, interface, or content risk.

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