EQUITY RESEARCH

RBC Capital Markets

RBC Capital Markets, LLC
Mark S.F. Mahaney (Analyst)
(415) 633-8608
mark.mahaney@rbccm.com
Andrew Bruckner (Analyst)
(415) 633-8651
andrew.bruckner@rbccm.com
Jim Shaughnessy (AVP)
(415) 633-8560
jim.shaughnessy@rbccm.com
Dylan Haber (Senior Associate)
(415) 633-8527
dylan.haber@rbccm.com

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Internet: The Inflection of Mobile & Video; Recapping Our 9th Marketer Survey

Key Takeaways From Our 9th RBC AdAge Survey: In February, RBC & AdAge conducted a survey of over 1,500 advertising professionals that included a broad mix of marketers, agency representatives, marketing consultants & media companies. The intent was to gauge industry sentiment towards Online Advertising. We believe this constitutes one of the broadest Internet Advertising surveys out there.

1. Internet Continues To Rise In Importance As Marketing Channel: A record 68% of marketers (up from 65% in last iteration) allocated >20% of their budgets to Online. We expect Online Ad spend to continue growing robustly, with 80% of our survey respondents expecting their Online marketing budgets to increase over the next year, vs. only 2% who expect them to decrease (similar to our last iteration). Key – Print and TV were the largest sources of Online/Internet marketing spend with 50% and 38%, respectively, of respondents getting budget from the category (followed by New Spend at 36%).

2. Mobile & Video Inflecting Up: Mobile has become an increasingly important channel, with 84% of marketers allocating some of their Online marketing budget to SmartPhones (vs. prior range of 71-73%). The shift to Mobile has been a theme in our sector for years now, but in this survey 31% of respondents are allocating more than 20% of their Online budgets to SmartPhones (vs. a range of 20-23% in our prior three surveys), and over 80% of marketers are allocating some budget to this channel, signaling an inflection, in our view. Further, the split between those who saw better ROIs on Mobile vs. Desktop tipped in Mobile's favor for the first time (41% vs. 37%). With respect to Online Video, 88% of marketers spent on the channel, with 38% of spending >20% of their budgets on Video (a meaningful increase from the 29% result last survey and the prior range of 25-33%).

3. ROI Survey Again Places Google At The Top: When asked to rank order all the major Online Advertising platforms based on ROI, marketers placed platforms in three clear groups: Google & Facebook again lead, YouTube, LinkedIn & Twitter in the middle, and Yahoo, Snapchat (new this iteration) and AOL last. Snapchat, not surprisingly, has a lot of work to do.

4. Marketers Expect To Increase Their Spend With The Major Online Ad Platforms, But Facebook Had The Most Positive & Twitter The Most Negative Results: 65% of FB, 57% of GOOG, 51% of YT, 47% of SNAP and 26% of TWTR advertisers expect to increase their ad spend on these platforms over the next year. Only 6% of FB, 6% of GOOG, 7% of YT and 8% of SNAP advertisers expect to decrease their ad spend on the respective platforms, but a whopping 24% of TWTR advertisers expect to decrease their spend on that platform. For TWTR this was a modest improvement vs. our Sept survey, but still negative.

5. Markedly Positive Results For FB, Then GOOG, Then YT, Then SNAP…and Then TWTR: Facebook and Google had the strongest results -- specifically, 37% of GOOG advertisers and 22% of FB advertisers spend more than 30% of their Online budgets on these platforms, an increase from previous surveys. Looking ahead, FB and GOOG advertisers showed the greatest intent to spend more on the respective platforms. And 58% of marketers believe ROIs have improved on FB over the last six months vs. 47% @ GOOG, 37% @ YT, 29% @ SNAP and 27% @ TWTR. Important to FB, 64% of marketers expressed an interest in advertising on Instagram & 81% (up from 69%) were positively inclined towards FB Video Ads. Regarding YT, 28% of marketers do not allocate any budget to it (vs. 27% last time). However, marketers skew strongly towards increasing their YT budgets (51% increase vs. 7% decrease), an improvement. For SNAP, we found 74% of marketers do not spend on the platform, with just 1% allocating >20% of their budget to the platform (not surprising given very early stage). Overall, TWTR had the weakest results in terms of current and future intentions to spend and ROI, but did exhibit modest improvements vs. Sept.

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RBC Capital Markets Online Advertising Survey

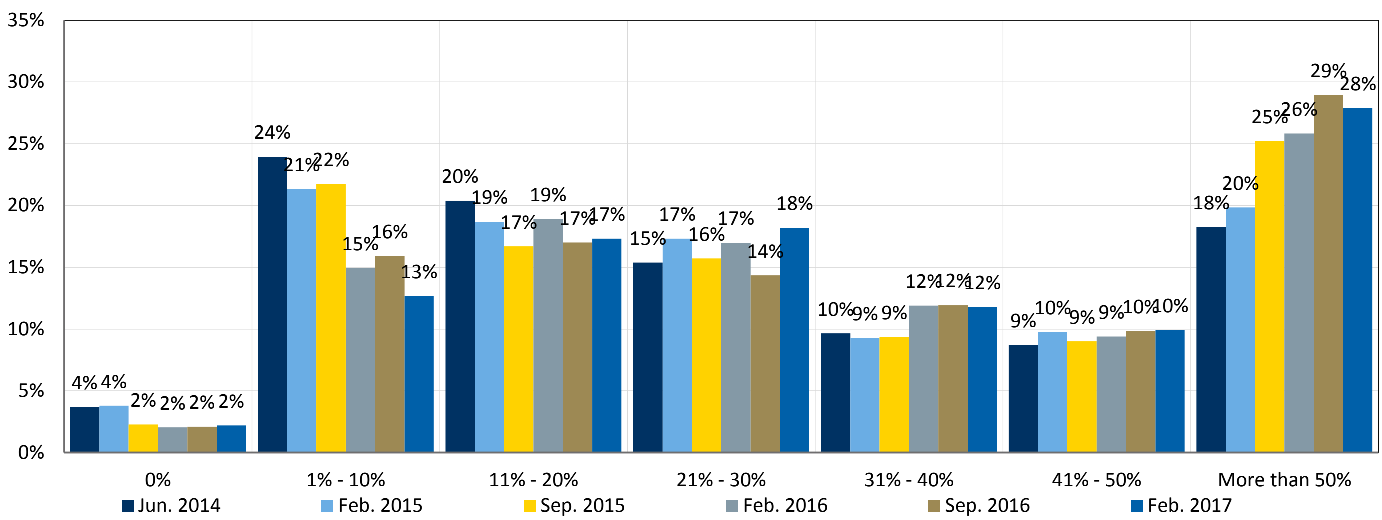
In February 2017, RBC Capital Markets conducted a survey of more than 1,500 advertising professionals in conjunction with Ad Age to gauge overall industry sentiment towards Online marketing tools, with a specific focus on Google (including YouTube), Facebook, Twitter, and Snapchat. This was the ninth survey we have run with Ad Age and included a broad mix of marketers, agency representatives, marketing consultants, and media company employees. The survey also included a wide mix of marketing budgets, from well under $500K annually to over $100MM. We believe this to be one of the broadest industry surveys on Online advertising. For further details on the demographics of the survey, please see the appendix.

We detail below specific takeaways from our survey, as related to overall Online advertising trends, as well as related to Google (including YouTube), Facebook, Twitter, and Snapchat.

Online Advertising Trends Takeaways

Overall, our survey respondents had a material exposure to Online marketing channels, with 68% of respondents allocating over 20% of their marketing budgets to Online marketing (a new high), including 28% who allocated over 50% of their budgets to the Internet (just shy of the 29% record recorded last September). The 68% is a 3pt improvement over our September 2016 survey and a 4pt improvement Y/Y, which we view as continued positive momentum. **The simple takeaway is that Online marketing channels are continuing to be increasingly important channels for advertisers, and we expect continued robust growth.**

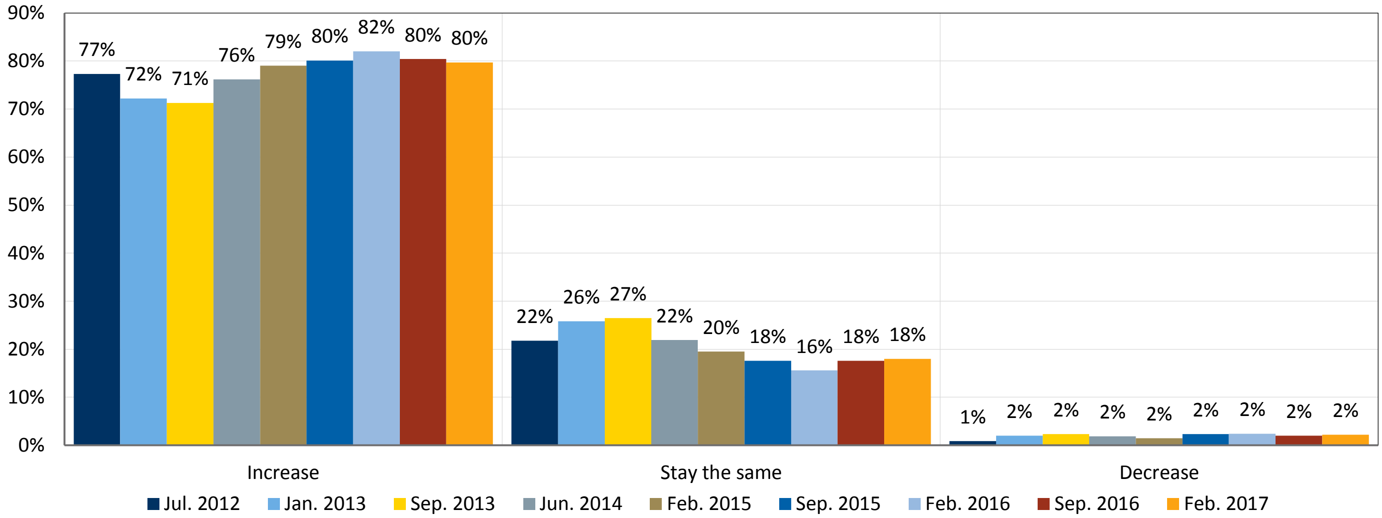
Exhibit 1: What percentage of your marketing budget is spent on Online/Internet channels?



Source: Ad Age, n=1,300

Positive spending trends remain largely consistent, near prior highs. Consistent with our prior eight surveys, the vast majority of respondents expect their Online Marketing budgets to increase over the next year vs. only 2% that expect them to decrease. The 80% "Increase" response rate tracked in February 2017 was the same as last September, and down 2pts from the record highs seen last year in February 2016. We continue to believe that incremental ad dollars are increasingly likely to go to Online Marketing channels. Broadly, these results sync with our overall Internet advertising forecasts, which have the Internet channel rising as a percentage of global ad budgets from approximately 35% in 2016 to almost 50% by 2019.

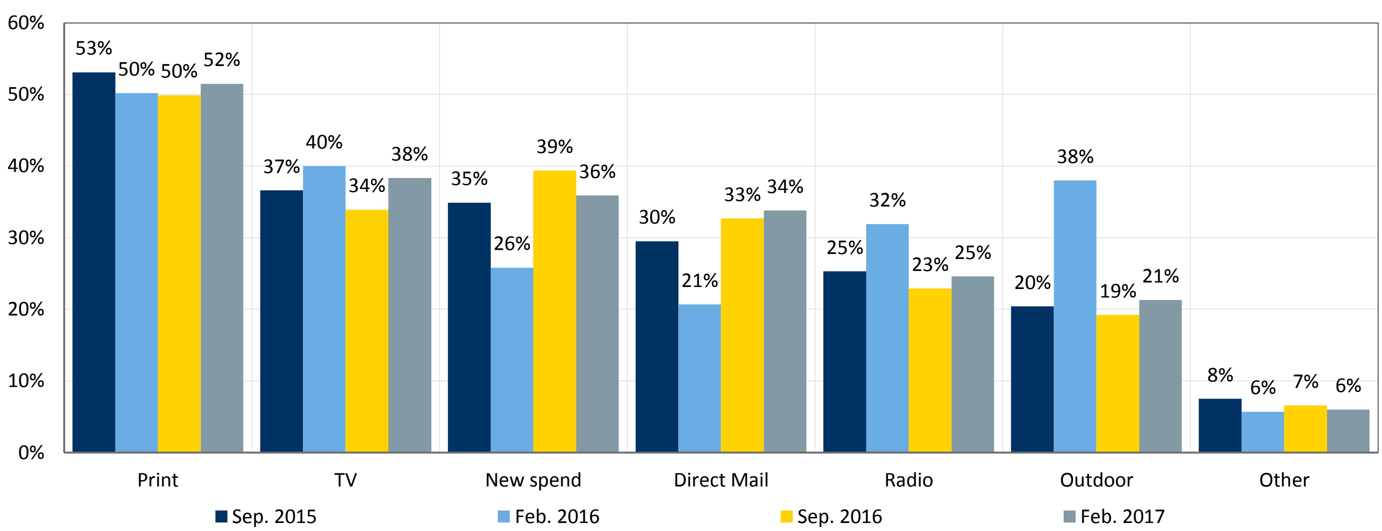
Exhibit 2: Over the next year, I expect my Online/Internet marketing budget to:



Source: Ad Age, n=1,032

We wanted to explore where incremental Online advertising spend has come from – is it new spend or taking away from Offline channels? The answer – all of the above. **We found that most of a marketer's Online spend is, in fact, continuing to come from Offline channels (the biggest of which are Print and Television, the #1 and #2 sources of Online budgets), as well as New Spend (3rd most popular overall).** What we found interesting in this set was that TV as a source of funds increased from our September 2016 survey to return to the number two spot as a source of funds. **Per our survey, 36% of marketers indicated that some of their incremental Online advertising budgets are new funds, with the rest coming from Offline channels, particularly Print, Television and Direct Mail.**

Exhibit 3: Which of the following ad channels have become sources of funds for your Online/Internet ad spend?

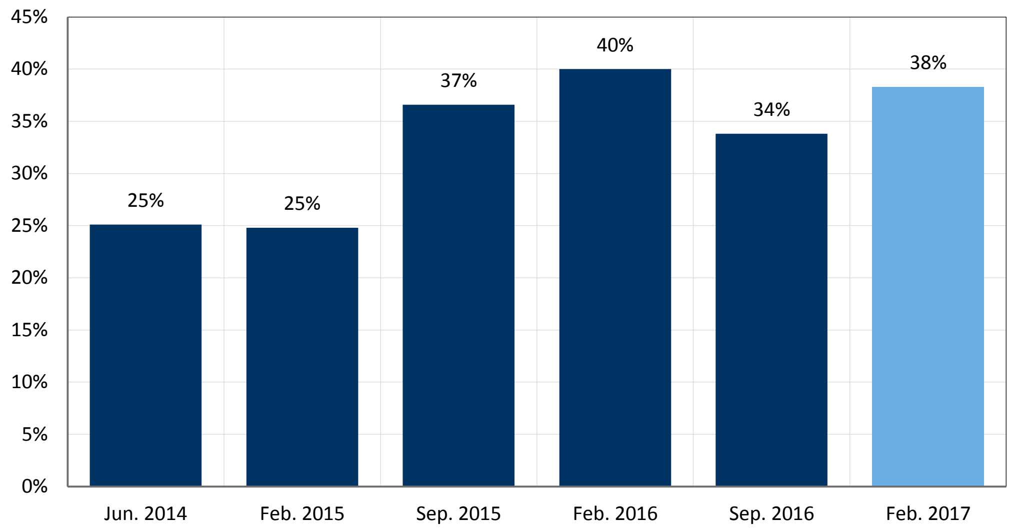


Source: Ad Age, n=1,032

Looking at prior iterations of our surveys, this trend of pulling ad dollars from television appears relatively consistent with recent trends. In our latest survey, 38% of marketers said Television was a source of funds for Online ad spending versus 34% in September and 40%

last February. We note that this comparison isn't completely apples to apples as we asked where Social Media spend dollars were coming from in the June 2014 and February 2015 surveys vs. Online/Internet ad spend in the latest four iterations. **We continue to see a general trend of dollars moving from Television to Online channels, with our latest results showing a slight improvement of this trend.**

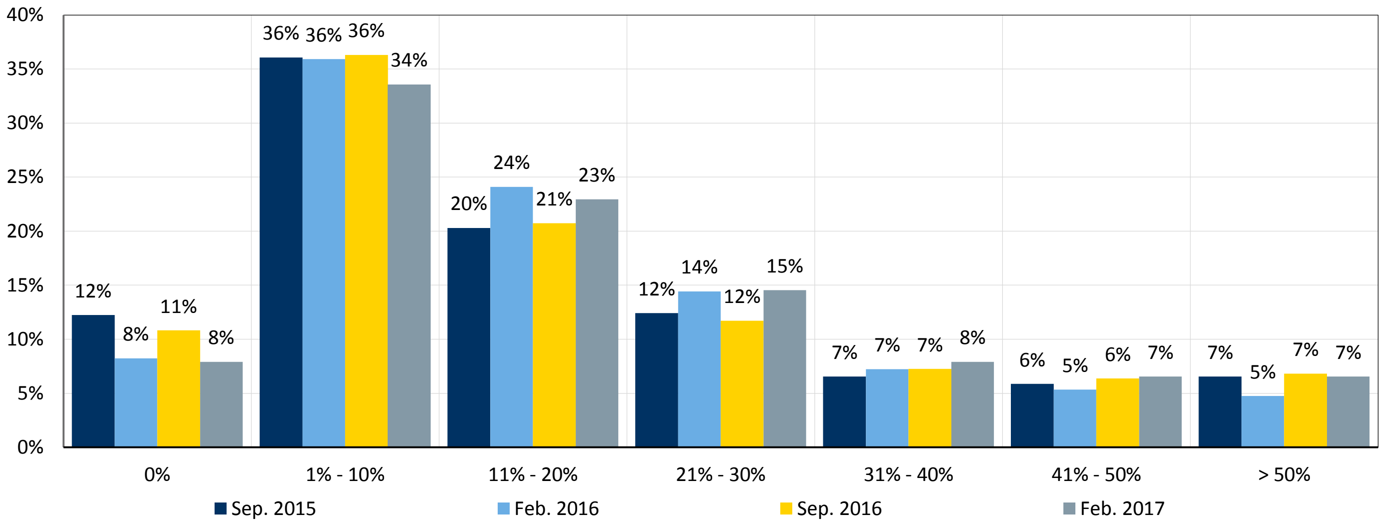
Exhibit 4: The percentage of respondents who replied "TV" was a source of funds for Online/Internet ad spend*



*Note: June 2014 and February 2015 asked for Social Media ad spend budgets vs. total Online/Internet ad spend
Source: Ad Age, n=1,032

With this survey, we also explored how much of a marketer's Online Ad budget was spent on Paid Search. Our results indicate that 38% (a record high) of marketers are spending more than 20% of their budgets on Paid Search, a 9pt improvement from our September 2016 survey and 5pt improvement Y/Y. Further, the percentage of marketers who are not using Paid Search as a channel at all decreased 3pts to 8%, tying record lows. On the opposite end of the spectrum, those spending more than 40% of their Online budgets on Search increased 5pts from September to 16% this round. **Overall, 92% of marketers spend on Paid Search, with 38% spending more than 20% of their budgets on the channel, and 16% spending more than 40% of their budgets on the channel – there remains no evidence of the maturing out of Search.**

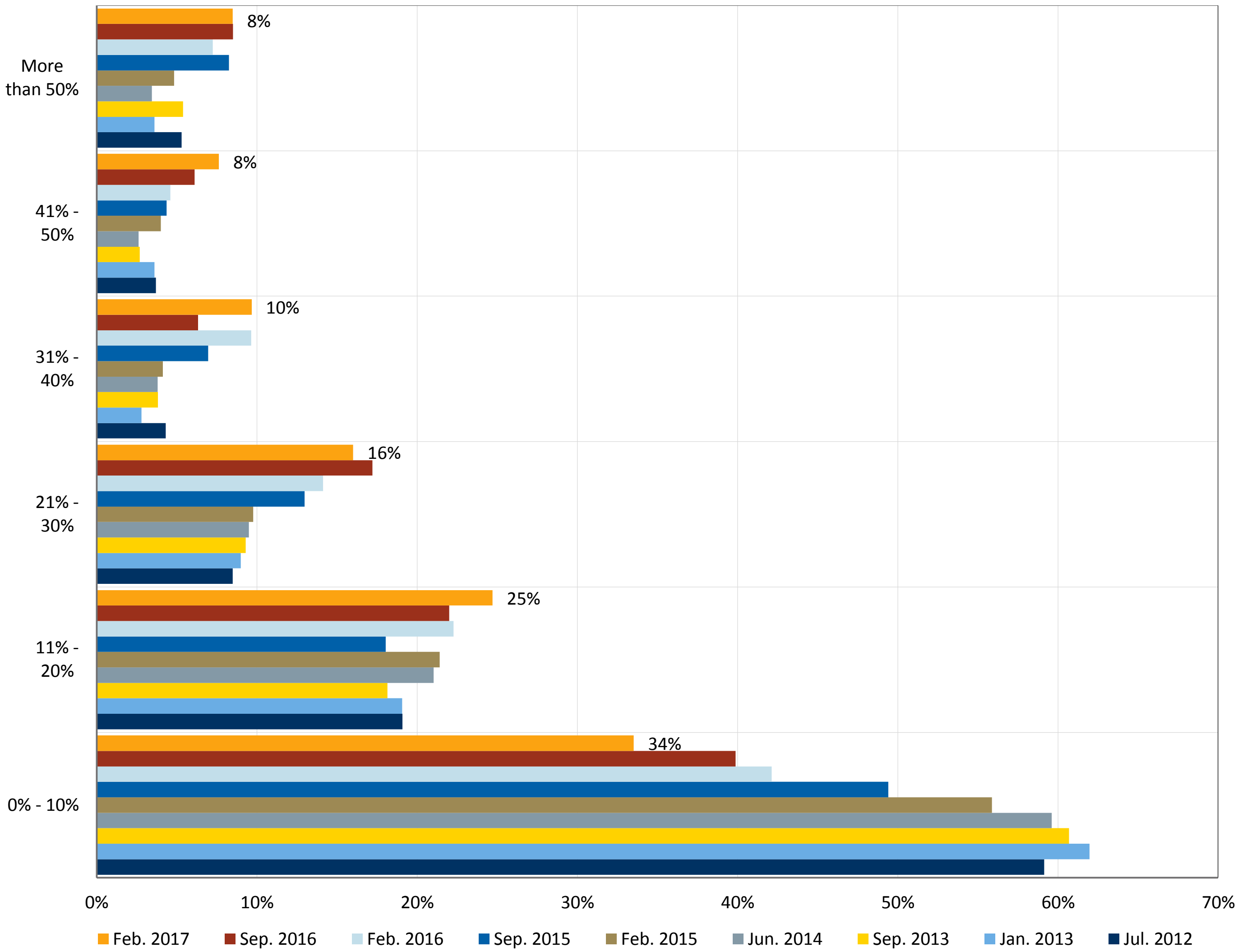
Exhibit 5: What percentage of your company's Online/Internet Ad budget has been designated for use in Search Engine marketing (e.g. Google, Yahoo, Bing)?



Source: Ad Age, n=1,179

Now turning to Social Media, one of the clearest takeaways from the survey is that Social Media is continuing to (rapidly) rise in importance as a marketing channel. Our most recent survey shows the % of respondents reporting that Social Media constituted more than 20% of their Online Marketing budget increased to a record high 42%, improving from the 38% observed in September 2016 and the 19% to 33% range seen in the prior seven surveys. Social Media is clearly becoming a more important part of marketers' messaging, a point that has been part of our broader Internet sector (and FB) investment thesis for the past several years. We have seen Social Media breakout as a real channel, with just 34% of respondents spending 10% or less of their Online marketing budgets in the category vs. 40% in our last iteration.

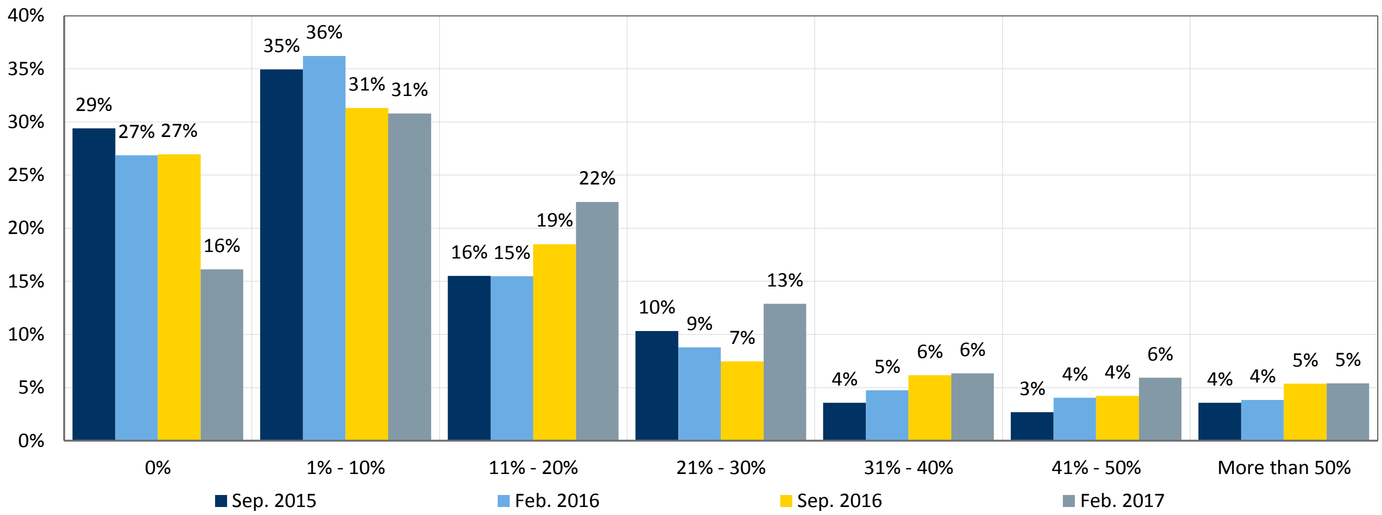
Exhibit 6: On average, what percentage of your Online marketing budget is spent on Social Media channels?



Source: Ad Age, n=1,032

Mobile has also become an increasingly important channel, with 84% of marketers allocating some of their Online marketing budget to SmartPhones (a material improvement from prior results). The shift to Mobile has been a theme in our sector for several years now, and we can see a step-function increase in our latest survey. 31% of our respondents are allocating more than 20% of their Online budgets to SmartPhones (vs. a range of 20-23% in our prior three surveys), and over 80% of marketers are allocating some budget to this channel. We believe Mobile will only continue to grow in importance to marketers.

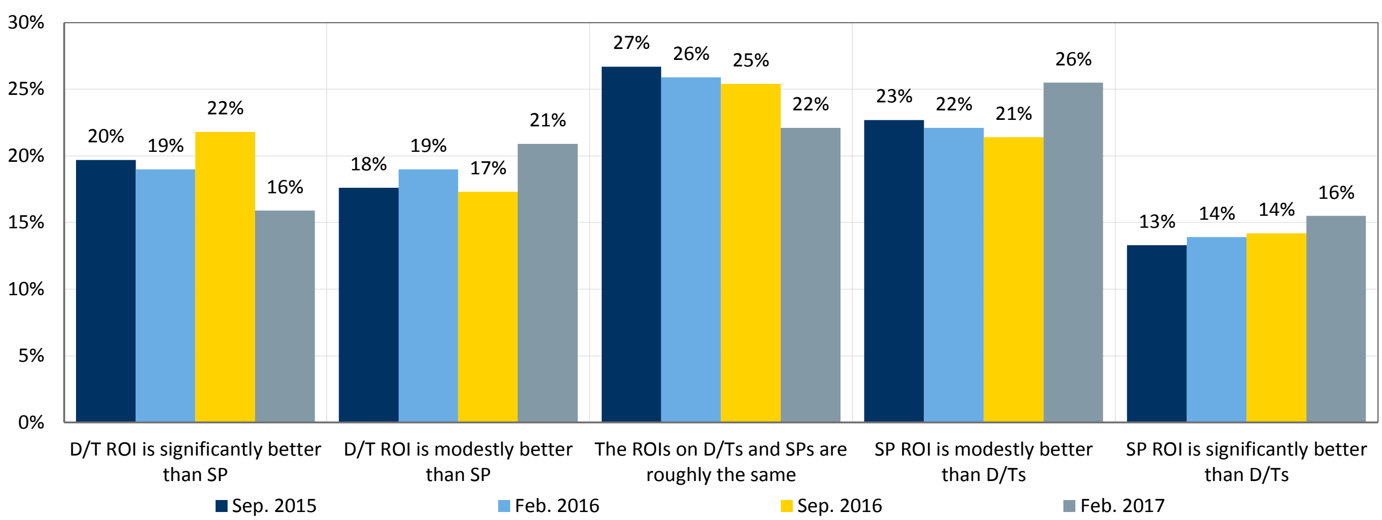
Exhibit 7: What percentage of your company's Online/Internet budget is spent specifically on SmartPhones?



Source: Ad Age, n=1,179

Further exploring the Mobile topic, we asked marketers what their perceived ROIs are for Desktop and SmartPhones. **The split between those who saw better ROIs on one channel versus the other was roughly split, though for the first time ever respondents reported seeing better ROI performance on SmartPhones (41%) vs. Desktop (37%).** This is a change from our prior three iterations, where Desktop had a slight edge. Frankly, we believe this overall trend is a key factor behind the continued strength we have seen in Google, Facebook, and arguably Snapchat's advertising revenue – as marketers eagerly embrace SmartPhone campaigns.

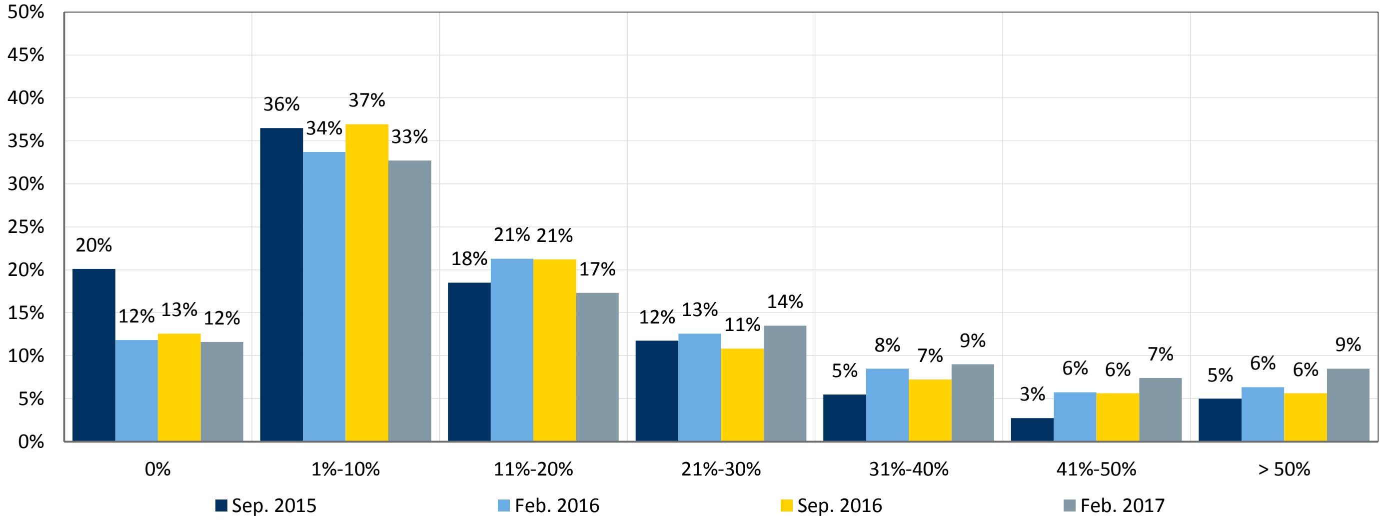
Exhibit 8: What is the relative difference between ROI on Desktop/Tablets ("D/T") versus SmartPhones ("SP")?



Source: Ad Age, n=941

Our final general question focused on another key trend in Online advertising – Video. Here too, we saw improving adoption by marketers, with Video commanding the largest budget shares we have seen to date. **Overall, 88% of surveyed marketers are spending on Online Video (vs. 87% in September), with 38% of marketers spending more than 20% of their budgets on Video (a meaningful increase from the 29% result last survey, representing a new record vs. the prior range of 25-33%).**

Exhibit 9: What percentage of your Online/Internet budget is in a video format?

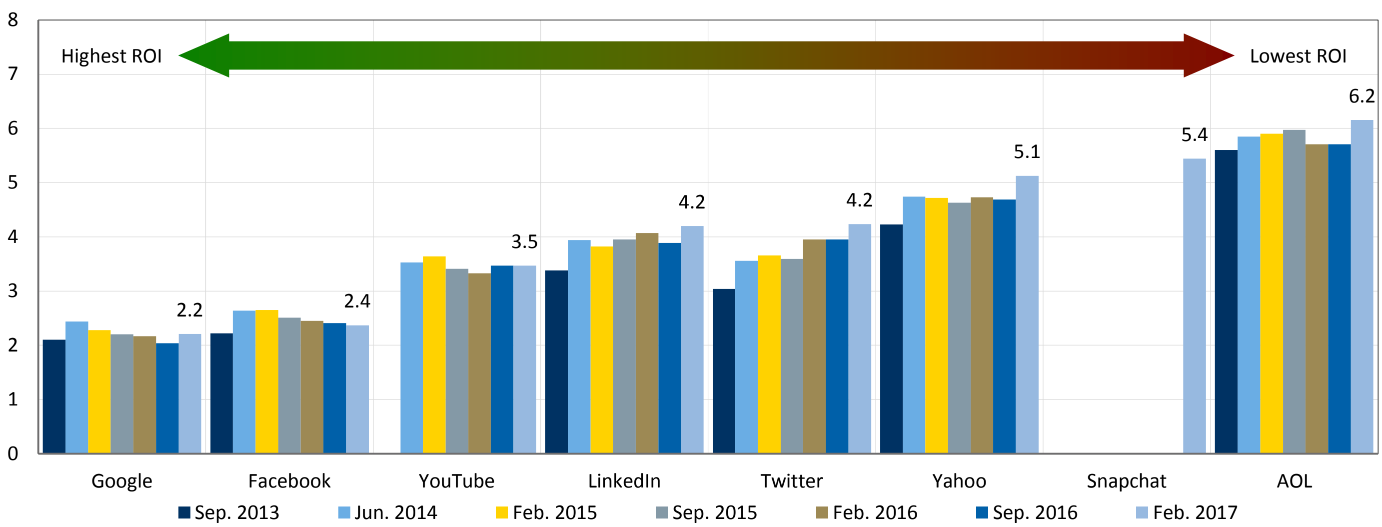


Source: Ad Age, n=1,094

Takeaways For The "Big" Advertiser Networks

That's Google, Facebook, Twitter, YouTube (yes, it's a part of Google but arguably lends itself to a different type of advertiser than Search) and…introducing…Snapchat (ok, maybe not a big advertiser yet, but let's see how this trend progresses). But first, we turn to the question of which Online Advertising platform marketers find most useful. We repeated our prior survey question, asking respondents to rank order all the major Online Advertising platforms based on ROI, with the new addition of Snapchat. The results were, not surprisingly, very similar to the prior surveys we ran. The order of preference remains the same, with Google continuing its reign as the King of Advertising ROI, thanks to the highly trackable nature of Search advertising. Yet again, coming in at a close #2 was Facebook, which is likely still benefitting from what are relatively low advertising rates (though this is starting to converge in all likelihood), new ad formats and improving measurement tools. YouTube is, again, a solid third. LinkedIn and Twitter remained close in the #4 / #5 spots. Finally, Yahoo #6 and AOL #8 are at the lower end of the spectrum, along with the new entrant, Snapchat at #7. We attribute Snapchat's low ranking to its new entrant status and to the likelihood that Performance Marketers have likely had little experience with the platform to date.

Exhibit 10: Please rank the following advertising platforms in terms of ROI in order of importance from 1-8, with 1 being the most important

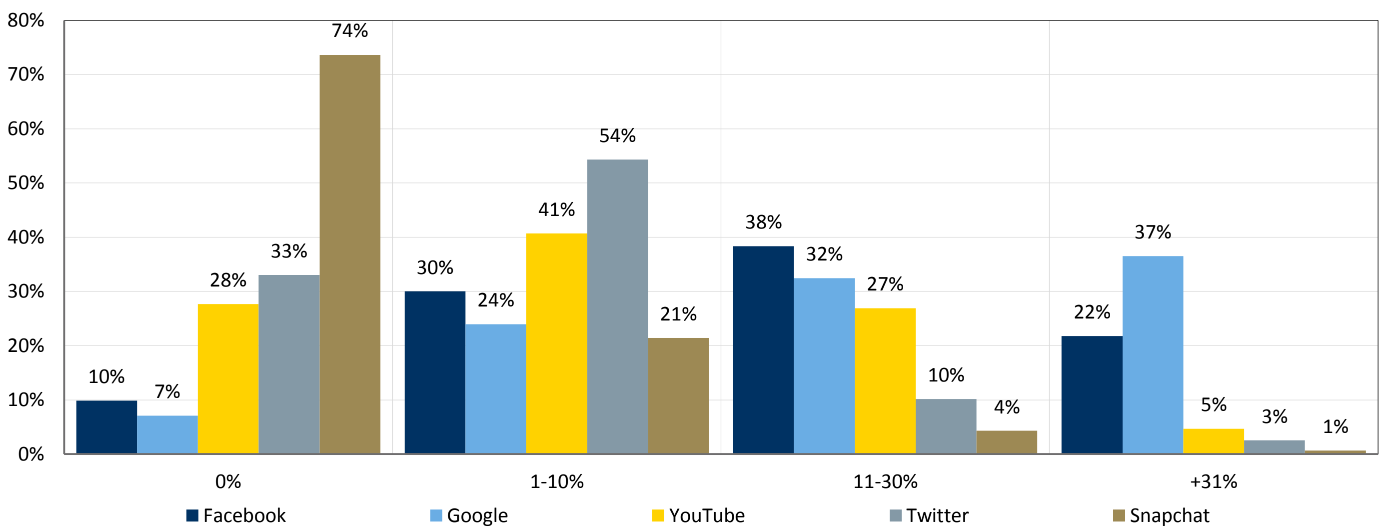


Source: Ad Age, n=928

Perhaps most importantly, ROIs showed remarkable consistency at Google or Facebook (which is interesting given what appears to be material rising ad prices at Facebook). We also find interesting from the above ROI Response data two relative trends. First, the best two networks saw a slightly greater separation from the rest of the pack versus prior surveys. Second, the bottom four networks for which we have trends, LinkedIn, Twitter, Yahoo and AOL, all saw slightly worse results vs. our prior iteration.

We then asked marketers to specifically compare their spend patterns and intentions on Google, Facebook, Twitter, YouTube and Snapchat. Not surprisingly, advertising spend was skewed strongest towards Google and Facebook, with YouTube coming in 3rd, Twitter 4th and Snapchat a distant 5th. Only 7% of respondents allocated no budget to Google (the same as our last survey), with 56% of respondents reported allocating 1-30% of their budgets to the Search engine and an impressive 37% allocating 31%+ (up from 35% in September). Facebook's spectrum had a slight increase in the percentage of respondents who do not spend on the platform to 10% (vs. 7% in September and 6% February 2016). However, FB also had a slight increase in the % allocating 31%+ of their budgets to the platform (22% this iteration vs. 19% last time). YouTube was next in line, with 28% of respondents not using the platform, and only 4% of those surveyed spending more than 30% of their Online budgets on the site (fairly similar to our September results). Twitter was further down the usage spectrum, with 33% of respondents avoiding the platform (vs. 30% in September and 25% a year ago) but only 13% of respondents spending just 11%+ on the service (vs. 16% six months ago). Finally, Snapchat showed the smallest usage with 74% of respondents not using the platform, and just 5% allocating more than 11%+ to the platform. In general, these results were consistent with the advertising revenue results of these platforms. In 2017, we are estimating *advertising* revenue of $75.5B at Google (ex-YouTube estimates), $38.1B of ad revenue at Facebook, $14.0B of revenue at YouTube, $2.0B of ad revenue at Twitter and $1.1B at Snapchat.

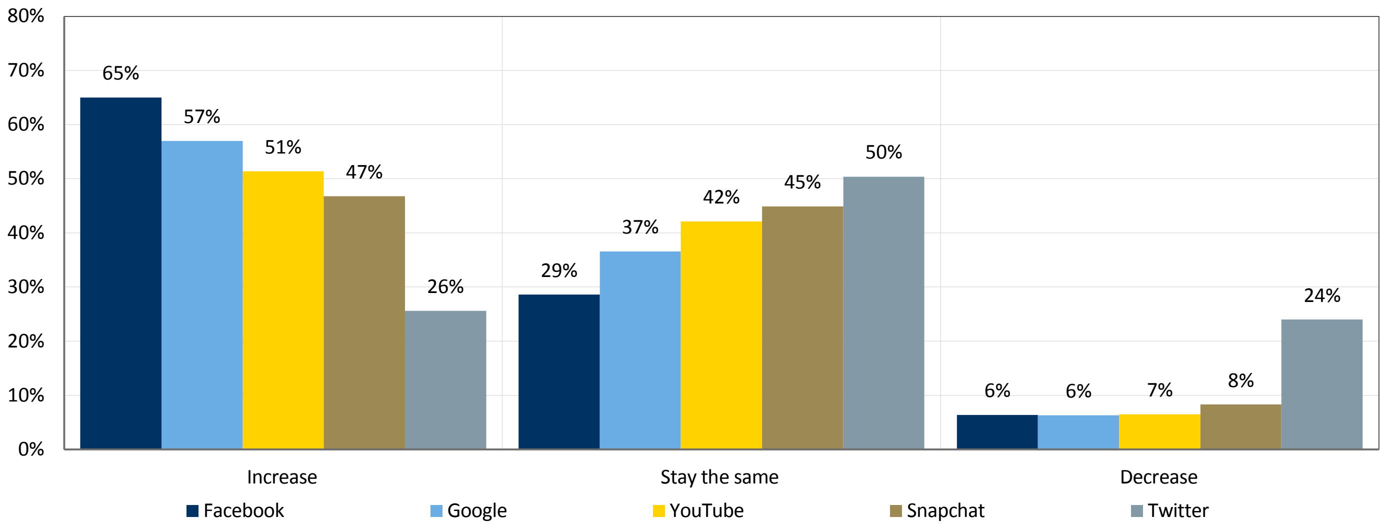
Exhibit 11: What percentage of your Online / Internet budget is currently allocated to each platform?



Source: Ad Age, n=870, 847, 828, 853 & 824 for Google, Facebook, YouTube, Twitter & Snapchat, respectively

Perhaps the most important question from the survey has to do with marketer intentions towards these Online advertising platforms going forward. The broad takeaway from this question is that marketers expect to increase their ad budgets with all five platforms over the next year, but the results for Facebook are especially strong, while Twitter's outlook appears much more muted. 65% of Facebook, 57% of Google, 51% of YouTube, 47% of Snapchat and 26% of Twitter advertisers expect to increase their ad spend on these platforms over the next year. On the flipside, the % of advertisers looking to decrease their spend on these networks range from 6-8% for all but Twitter, which is at 24% (though this did return to a slightly positive skew from last iteration's slightly negative skew). Overall, these are positive indicators for Google, Facebook, YouTube, and Snapchat. Later in this note, we discuss the trends we are seeing within each of these platforms. At a high level, these results highlight the secular growth in Online Advertising. We would call out Facebook as being especially positive, whereas Twitter's results hint at a continued cautious outlook.

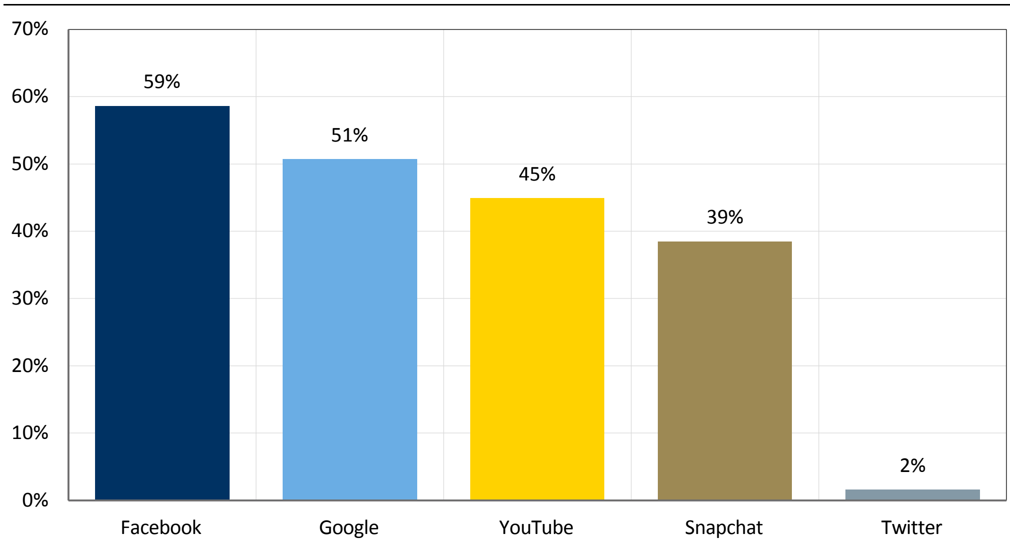
Exhibit 12: Over the next year, I expect my advertising budget with Facebook, Google, YouTube, Twitter & Snapchat to:



Source: Ad Age, n=803, 711, 613, 526 & 254 for Google, Facebook, YouTube, Twitter & Snapchat, respectively

Using the data above, we looked at the difference between the number of marketers who are looking to increase and the number who want to decrease their spend on the various platforms. The results are below, which clearly illustrate Facebook as the pack leader, with Twitter materially lagging its peers.

Exhibit 13: Over the next year, I expect my advertising budget with Facebook, Google, YouTube, Twitter & Snapchat to (below is the % who plan to increase minus the % who plan to decrease):

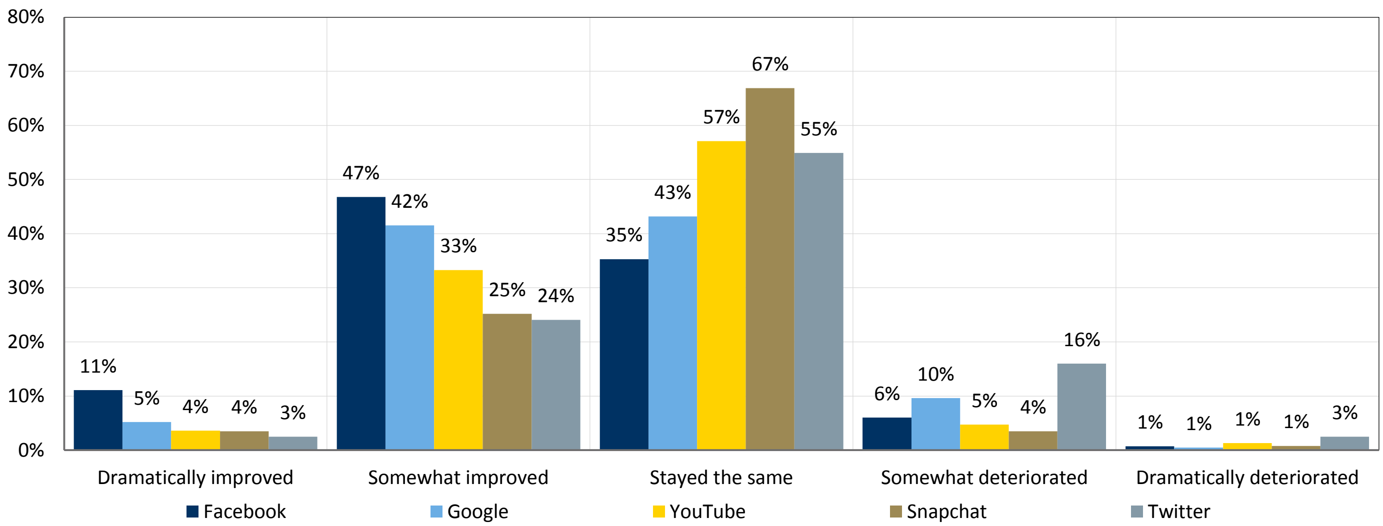


Source: Ad Age, n=803, 711, 613, 526 & 254 for Google, Facebook, YouTube, Twitter & Snapchat, respectively

We also asked marketers about their perceptions of the changes to ROI on each platform over the past six months. Facebook saw, by a large margin, the greatest improvement with 58% of marketers seeing "dramatically" or "somewhat" improved ROI, while Google, YouTube, Twitter and Snapchat had 47%, 37%, 27% and 29% of marketers responding positively, respectively. Also notably, we saw Twitter have nearly 2x the amount of responses for ROI deterioration (19%) vs. the next closest platform (Google at 10%). **We see Facebook**

as making strides ahead in improving its ROI for marketers, likely through better targeting and attribution (the importance of measurability has been a consistent theme we have increasingly heard at industry events).

Exhibit 14: How has your ROI changed over the past 6 months?

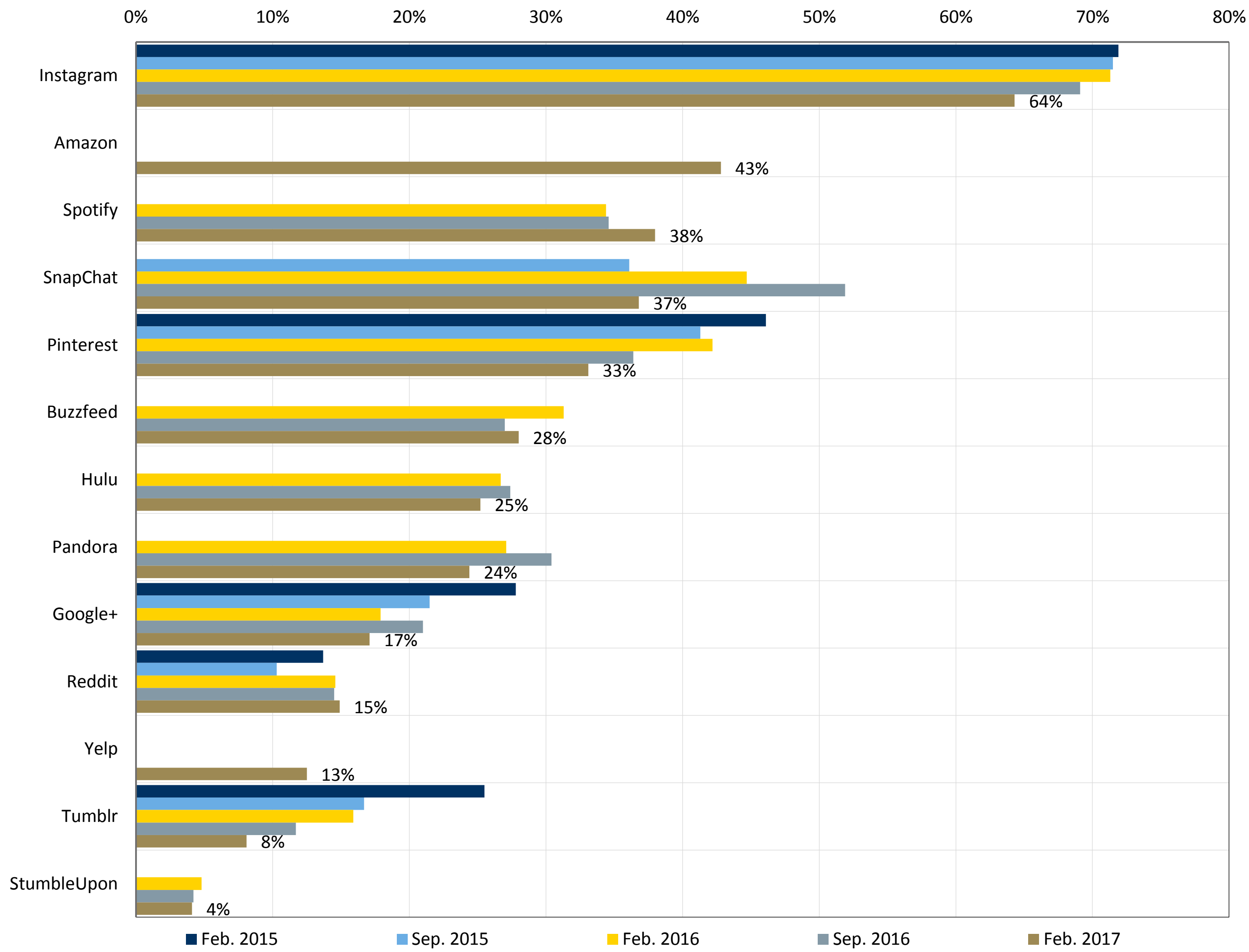


Source: Ad Age, n=803, 711, 613, 526 & 254 for Google, Facebook, YouTube, Twitter & Snapchat, respectively

What we continue to find most interesting about these surveys are the Facebook results, given that this platform is already materially larger than YouTube (perhaps 2-3x in terms of ad revenue) and dramatically larger than Twitter (getting close to 20x). **Given that a slightly greater % of marketers plan to increase their ad budget with Facebook (65% versus prior eight surveys of 56-64%), there is certainly the suggestion here that Facebook's overall ad $ penetration growth is far from cresting.**

Outside of these primary Advertiser Networks, we also wanted to test marketers' interest in some of the "emerging" Networks – Instagram, Amazon, Pinterest, Spotify, etc.… What we found is that Facebook-owned Instagram continues to have the largest interest, with 64% of respondents interested in advertising on this platform (we also saw 35% of respondents already using the platform vs. 30% six months ago and 26% a year ago), which we view as another significant bullish point for FB. Given the high level of interest in Video Ads (discussed above) and on Facebook's Auto-Play Video Ads (discussed below), we continue to believe meaningful Instagram monetization will occur this year. **Outside of Instagram, marketers expressed significant interest in advertising on Amazon with more than 40% of marketers claiming to have interest in placing ads there, and meaningful interest in Spotify (38%), Snapchat (37%, and further explored later in this document), and Pinterest (33%).** Buzzfeed, Hulu and Pandora made up the next category of interest with 20-30% interest levels from surveyed marketers. Google+, Reddit, Yelp, Tumblr and StumbleUpon each had less interest from marketers.

Exhibit 15: Which of the following emerging Internet platforms would you be interested in allocating ad budgets?



Source: Ad Age, n=837

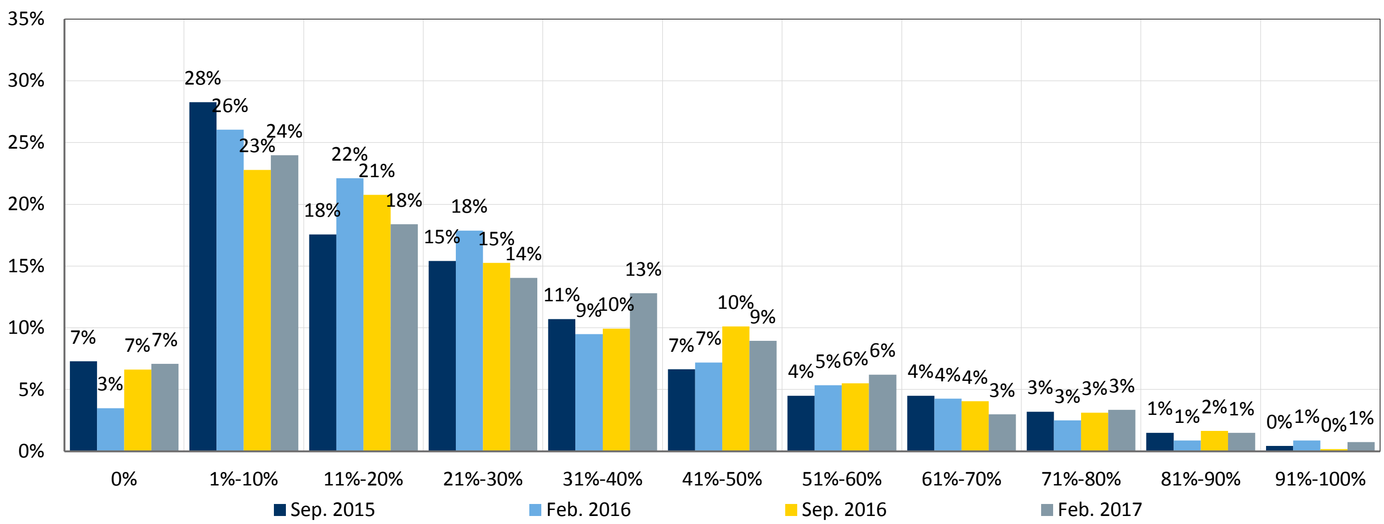
Now friends, we turn our attention to the survey results specific to Google, Facebook, Twitter, YouTube and Snapchat. As was the case above, we will compare our most recent results with those of our prior surveys when possible, as we view trend results as materially more valuable than snapshots.

Takeaways For Google

We found the results for Google to be quite positive with the platform commanding significant market share and showing indications of future growth and continued perceived strength in the platform's ROI, with some of the strongest results we have seen to date. Spending at Google is higher than the other Ad Networks, with the lowest number of "non-spenders" (just 7% don't spend on Google, the same as our last iteration). Further, Google has the highest number of marketers allocating more than 40% of their Online budgets (24% spend more than 40% of their Online budgets on Google vs. 25% in the last survey and 21% a year ago). Moreover, our February 2017 survey showed the highest levels of Marketer satisfaction with Google and the strongest ROIs we have seen.

Survey responses show a relatively high level of ad budget allocation to Google vs. other platforms. Specifically, 15% of respondents spent 51% or more of their Online Marketing budgets on Google, the same level as in our September survey. Additionally, only 7% of marketers stated they would not be spending anything on Google, similar to prior results. We view Google as an almost essential marketing channel for most businesses – something of a utility.

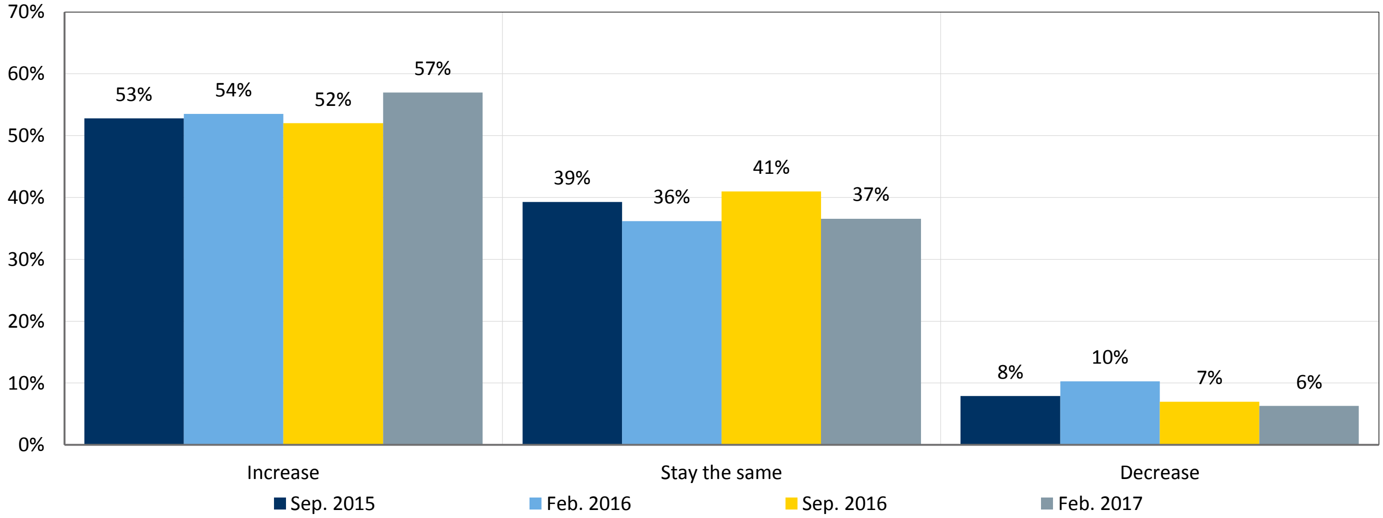
Exhibit 16: What percentage of your Internet advertising budget is spent with Google?



Source: Ad Age, n=870

Looking ahead, the majority of marketers believe they will increase their spending on Google (57% - a record high), while the next largest group will maintain their current level of spending (37%). Conversely, 6% of marketers believe they will decrease their spending on the platform. These results are a slight improvement from our earlier iterations of this survey. Looking at the other major Internet advertising platforms in this survey, there are a similar percentage of marketers who will reduce their spending on Google vs. Facebook, but the result is slightly better than at YouTube and Snapchat, and materially better than at Twitter.

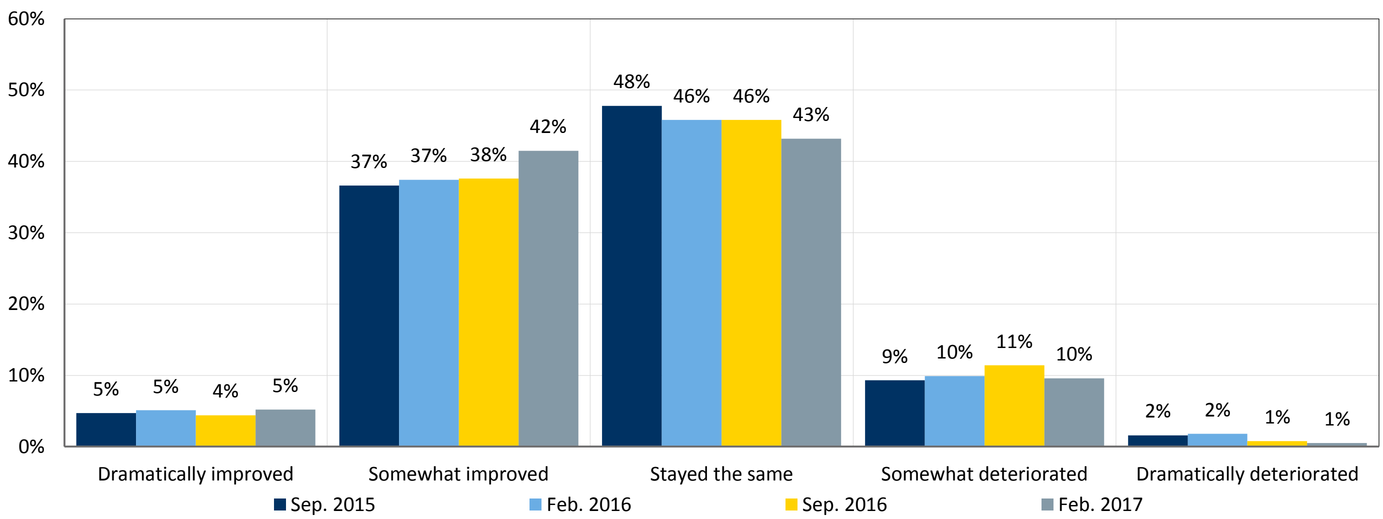
Exhibit 17: Over the next year I expect my Google budget to:



Source: Ad Age, n=803

Importantly, marketers are generally seeing improved ROIs on their investments in Google ads. From our survey, 90% of marketers saw their ROIs either improving (47%) or staying the same (43%), versus only 10% who saw decreases – a slight improvement over prior iterations.

Exhibit 18: How has your ROI on Google changed over the past 6 months?



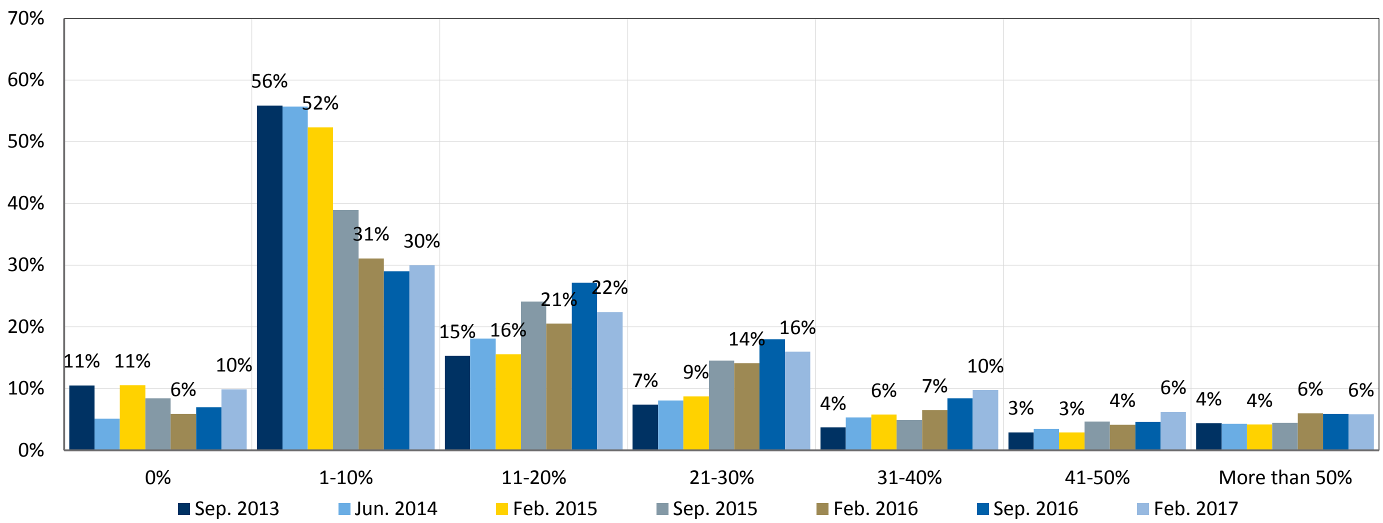
Source: Ad Age, n=803

Takeaways For Facebook

Overall, we found our survey to be quite positive for Facebook, reinforcing our view that Facebook continues to have a LONG revenue runway ahead of it. Marketer satisfaction with Facebook as an ad platform remains very strong, with future intentions to spend reaching new highs. Further, marketers appear very satisfied with the ROI they are receiving from the platform, which is especially noteworthy given clear evidence of rising pricing on the Facebook platform. We also observed a robust appetite for Auto-Play Video Ads with a large jump in the number of advertisers who are currently utilizing this format.

Survey responses show a similar level of budget allocation to Facebook ad spend vs. our prior marketer polls. Specifically, 38% of respondents spend more than 20% of their Online marketing budgets on Facebook, a small increase from the 37% seen in September 2016 and 31% last February. However, we saw a slight increase in the % of marketers who will not spend on the platform (10% now vs. 7% in September and 6% a year ago). We view the overall high rate of spending on Facebook (90% of marketers allocate a portion of their Online budget to FB) as a strong positive; it shows us that Facebook continues to be a dominant force in not just Social Media, but also adverting as a whole. Similar to Google, we believe Facebook is arguably a required marketing channel….a utility.

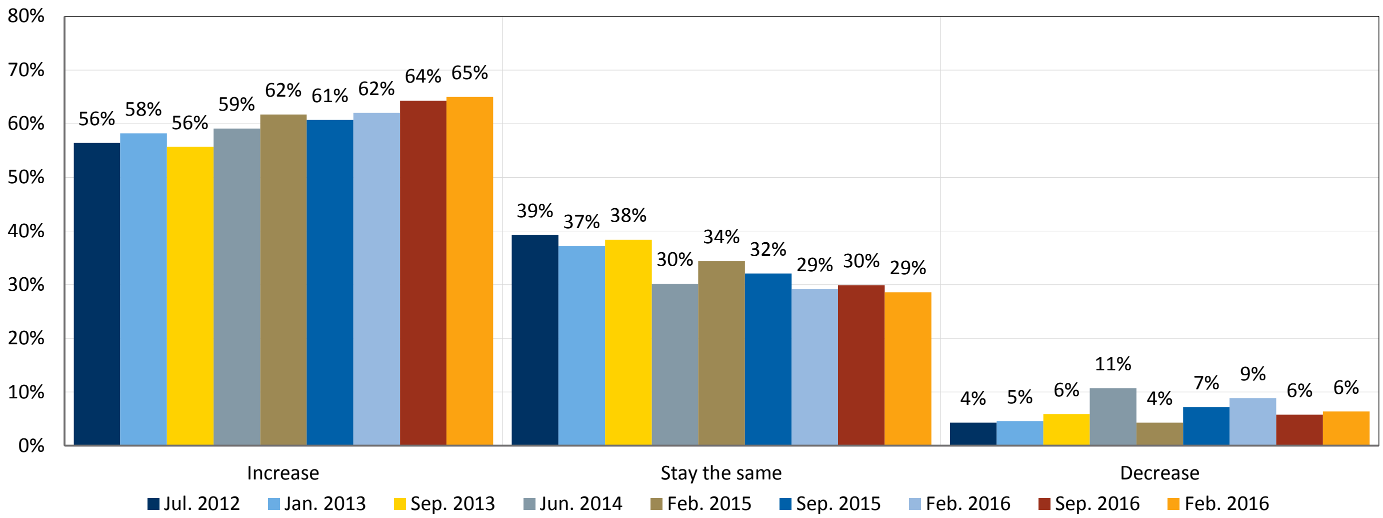
Exhibit 19: What percentage of your Online/Internet marketing budget is currently allocated to Facebook?



Source: Ad Age, n=847

Perhaps more bullish were the results when we asked marketers if they plan to increase or decrease their advertising budget on Facebook. A record 65% of respondents stated they were planning to "increase" their budget, with only 6% planning to "decrease" (similar to last iteration). The "increase" results were the best of the platforms we tested (by 8pts), and the "decrease" results tied for the lowest. The big takeaway here is that even though FB's large size should lead to decreasing growth, we have not seen any material slow-down in marketer spending intentions with Facebook. We believe the consistency of "increase" responses over the past three years is quite impressive. This result gives us further confidence in our bull thesis on Facebook.

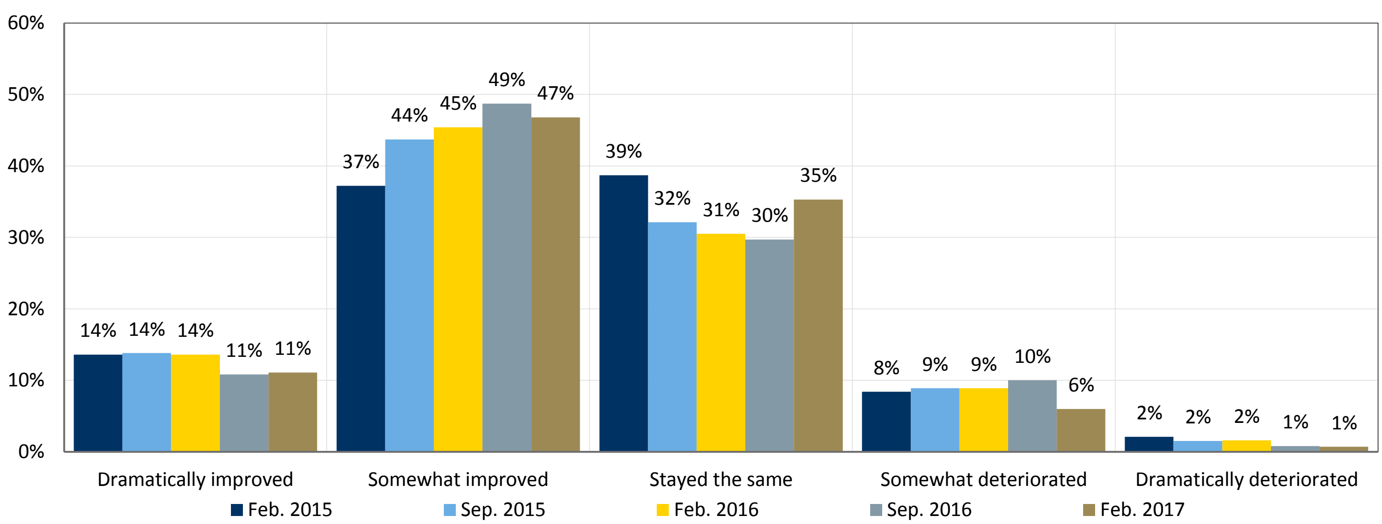
Exhibit 20: Over the next year, I expect my Facebook advertising budget to:



Source: Ad Age, n=711

Continuing on the bullish trend, 58% of marketers surveyed believe they are seeing improvements in their ROI from Facebook, a slight decline from the 60% we observed in September and the 59% result last February. Further, 35% of respondents believe their ROI has stayed the same over the last 6 months, leading to 93% of respondents having a neutral-to-positive view on Facebook's product evolution as an advertising ROI platform (a new record). This is what we would call a highly positive skew. Conversely, those who believe the Network's ROI has deteriorated were the lowest level ever tested at 7%.

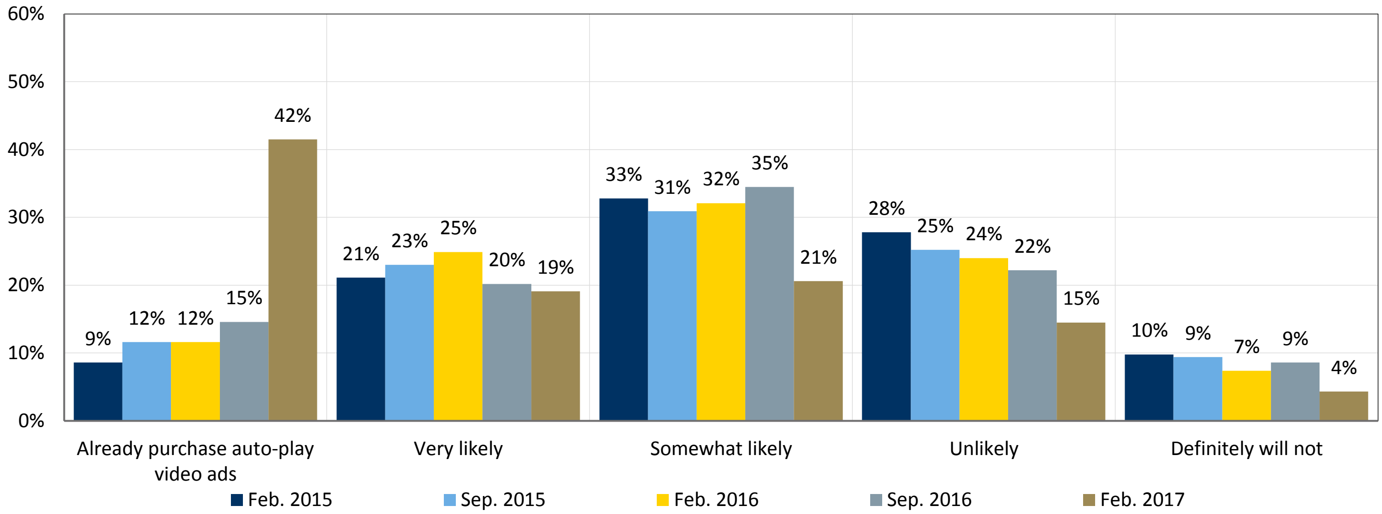
Exhibit 21: How has your ROI on Facebook changed over the past 6 months?



Source: Ad Age, n=873

Finally, we also asked if marketers were likely to buy Video Ads in the next six months, to which we saw a very high 27pt jump to 42% saying they already buy these ads (VIDEO BABY!!!). Note: In this iteration, we removed the phrase "Auto-Play" from the question, which may have partially influenced results. Further, 81% were positively inclined, either already buying these ads, or "very" to "somewhat" likely to purchase them (up from 69% in both September and February 2016). The number of marketers who are not interested, or at least "unlikely" to buy an Auto-Play Video Ad decreased to 19% from 31% last iteration (please see the YouTube section for a comparison of perceived YouTube vs. Facebook Video Ad ROIs). **Clearly, Facebook's Video Ads have gained very meaningful traction with marketers.**

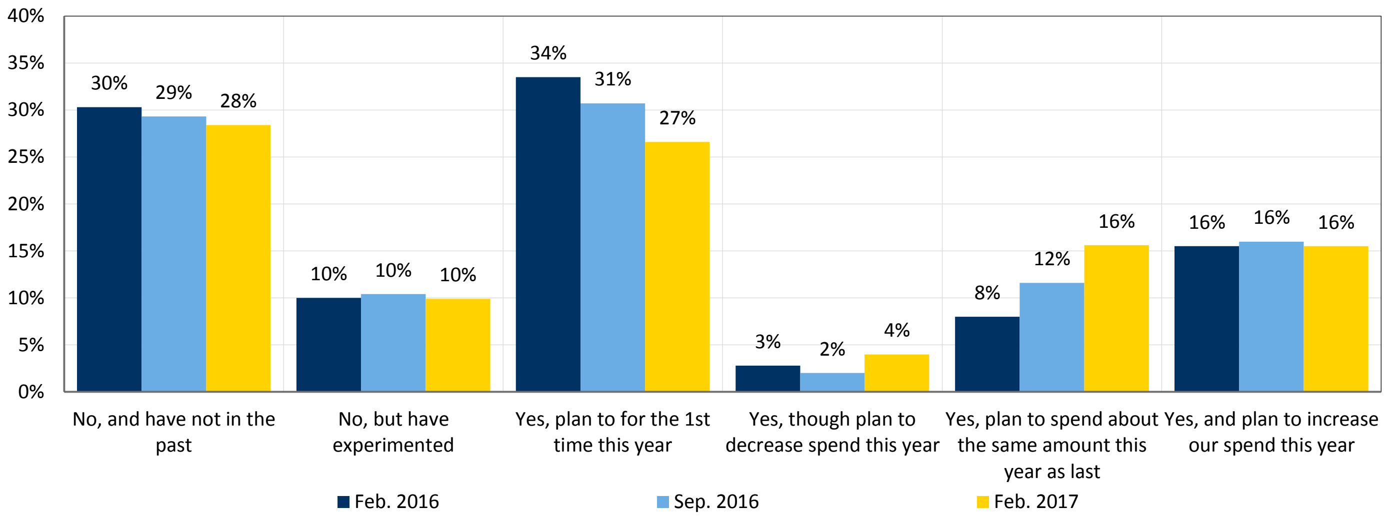
Exhibit 22: How likely are you to purchase Auto-Play Video Ads in the next six months?



Note: This iteration we removed the phrase "Auto-Play" from the question, which may have partially influenced results.
Source: Ad Age, n=698

For the third time, we asked marketers about their spending specifically on Instagram. We found 35% of marketers currently spend on the platform (vs. 30% in September and 26% last February), while an additional 27% who have not tried it intend to spend this year. Of the marketers who spend on the platform, 89% plan to increase their spend or maintain it at current levels, while 11% plan to decrease their Instagram budgets (a decrease from the 93% / 7% results recorded in September, but the same as the year ago results). Finally, our results showed 28% of marketers have no interest in the platform (down 1pt), while another 10% of marketers have experimented with spending on it in the past but no longer do so, a similar result to last time. **We believe Instagram's potential is quite large, with 62% of marketers either currently spending on the platform or intending to do so this year.**

Exhibit 23: Do you intend to spend advertising dollars on Instagram this year?

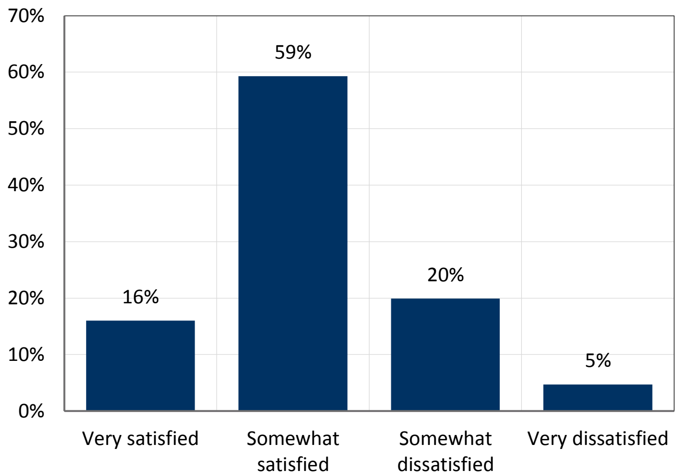


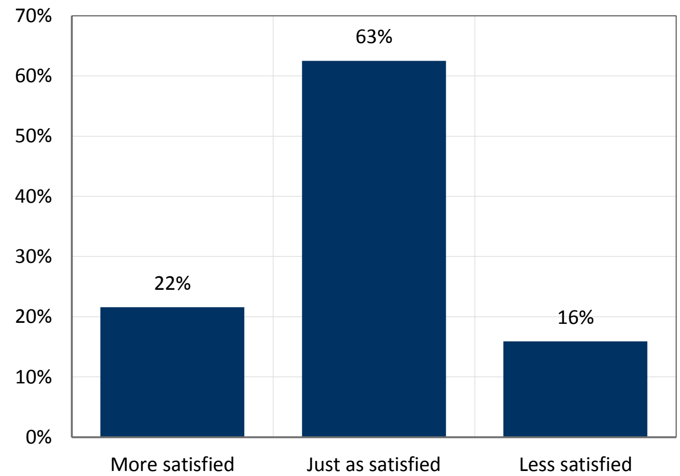
Source: Ad Age, n=698

At a high level, we believe that Facebook's continued ad format innovation, along with new Greenfield opportunities (Instagram, Messaging platforms, Video tab) will continue to allow Facebook to show strong revenue growth. We detailed these thoughts in our June 20th *Updating The Long Thesis* report. Our positive survey results from this latest iteration of our marketing survey further solidify our belief that Facebook remains a leader in Online advertising, and will continue to do so for the foreseeable future.

Finally, for the first time we also asked marketers who use Facebook about their current satisfaction levels with the data/analytics they receive from the platform, and how that satisfaction has changed over the past year. We thought this was particularly relevant given the press reports last year regarding some faulty measurements. Currently, 75% of marketers are "Very" or "Somewhat" satisfied with the data they receive from Facebook, while 25% are on the other end of the spectrum. We see this as a fairly positive skew. We also found a positive skew from marketers in terms of how the data/analytics have changed over the past year, with 22% more satisfied vs. 16% less satisfied. We will continue to monitor these trends over time.

Exhibit 24: How satisfied are you with the data and analytic tracking you receive on your Facebook campaigns (left)? Are you more, less or just as satisfied as a year ago with the data and analytics you receive on your Facebook campaigns (right)?





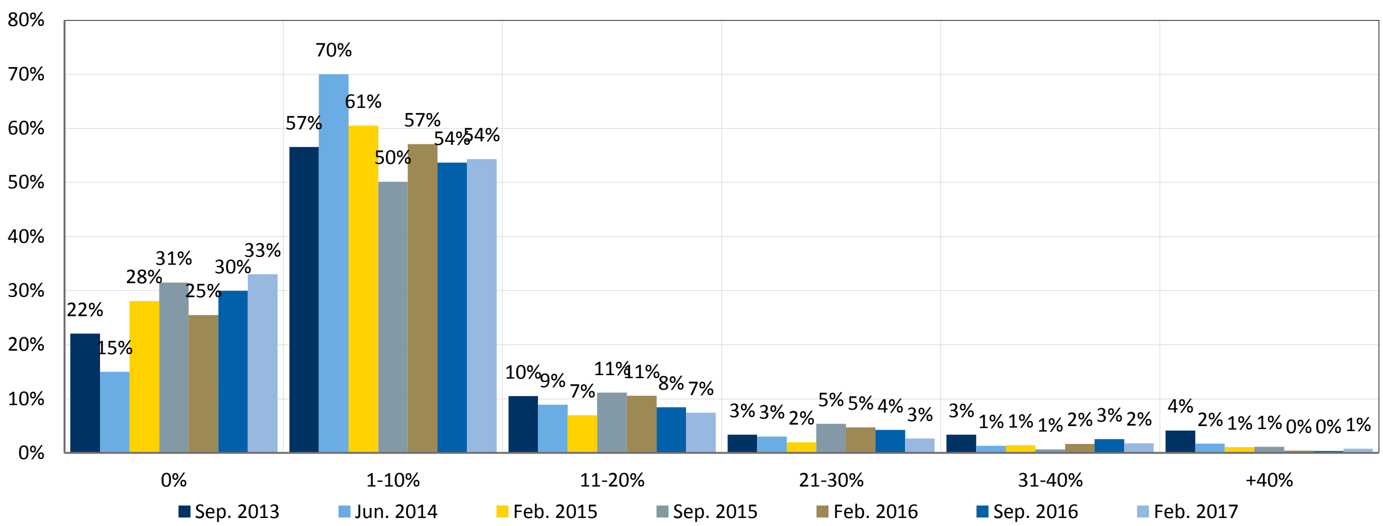
Source: Ad Age, n=698

Takeaways For Twitter

We saw a bit of improvement in our February survey versus our September iteration, but results were still the most negative of any platform and do not point to any near-term material improvements. Twitter had the weakest results with respect to advertiser budget allocation (aside from emerging platform Snapchat), expected future spend and general satisfaction of the platforms we tested. Further, we note that perceived ROI on the platform skewed neutral (vs. clearly positive skews for all other platforms).

In terms of specific budget spend, here we found some incrementally negative results for Twitter. 33% of our September survey respondents do not allocate any budget to the Twitter platform, up from 30% in September and 25% last February. And the % who are committing 1%-10% (an experimental level, perhaps) of their Online market budget with Twitter remained at 54% from September, which is down 3pts Y/Y. Moreover, we found response rates to bigger Twitter advertising commitments (11% or greater) to be low, and decreased to 13% from 16% in September and 17% last year. Overall, Twitter appears to still have a long way to go in terms of attracting major advertiser commitments.

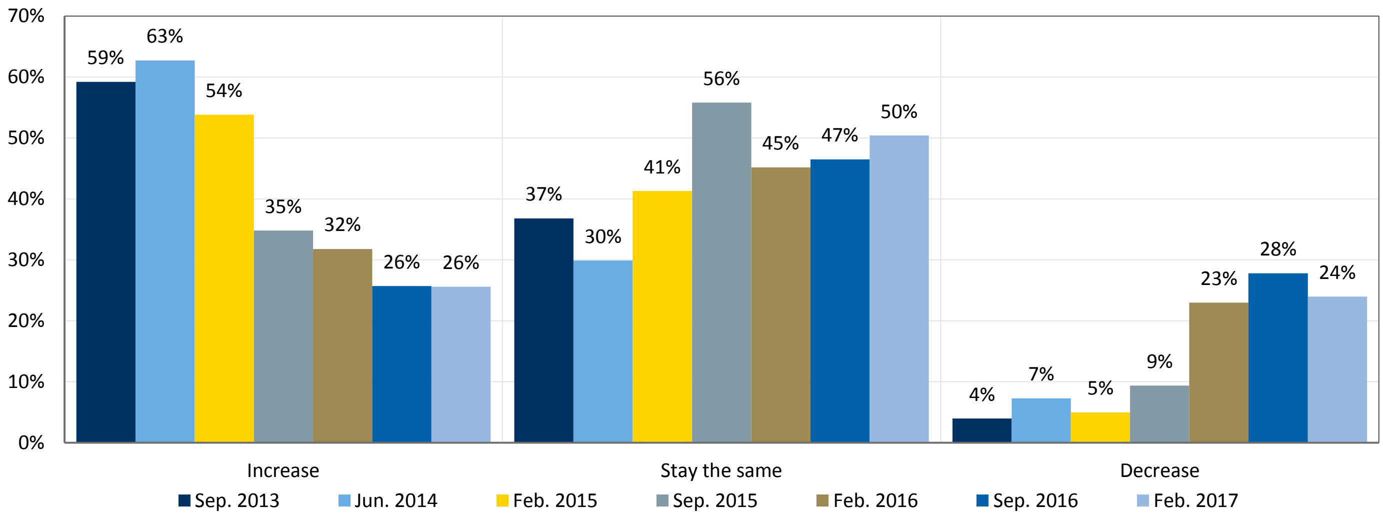
Exhibit 25: What percentage of your Online/Internet marketing budget is currently allocated to Twitter?



Source: Ad Age, n=853

Looking at the year ahead, our survey suggests a cautious outlook in terms of advertiser intentions towards Twitter, though slightly better than the outright negative outlook from our September survey. 26% of respondents plan to “significantly” or “modestly” increase their Twitter ad spend. This is tied for the lowest level of spend increase intentions for Twitter that we have tracked over the past seven surveys and marks a 6pt Y/Y decline. Meanwhile, the 24% of respondents who plan to “modestly” or “significantly” decrease their Twitter ad spend is the second highest level we have tracked, but a 4pt improvement from our last survey. **Overall, there is a (very) slightly positive skew with 2% more marketers intending to increase spend on Twitter next year vs. decrease. We view these results as intrinsically negative for Twitter.**

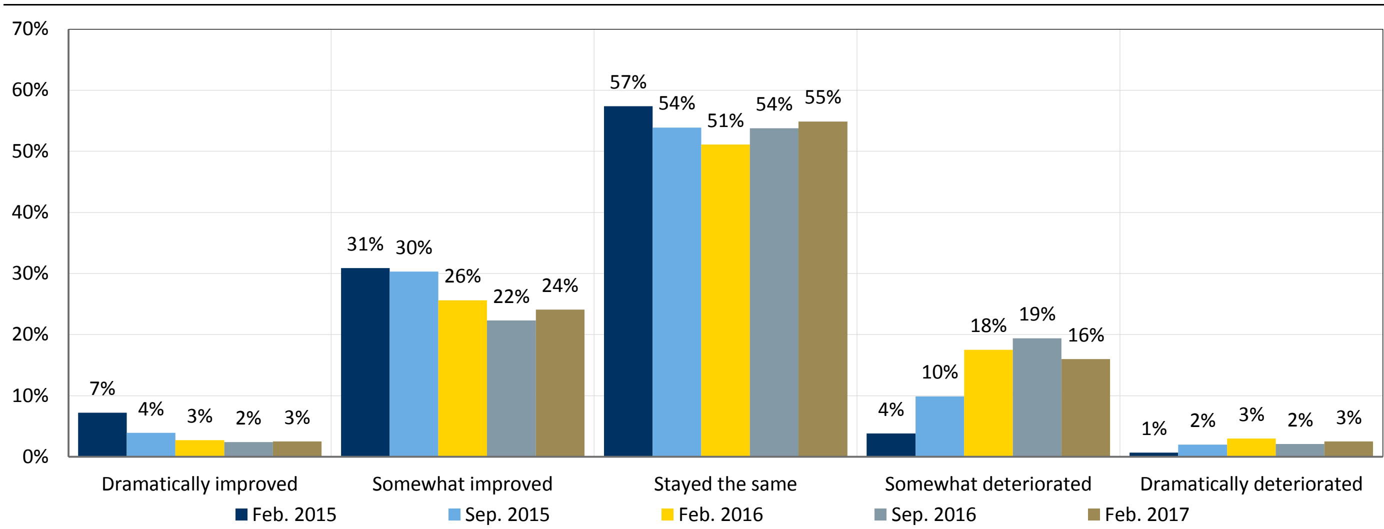
Exhibit 26: Over the next year, I expect my Twitter advertising budget to:



Source: Ad Age, n=526

There was, however, a more positive skew to how surveyed marketers view Twitter's ROIs over the last six months, which also improved a bit. In our most recent survey, we observed 27% reporting positive changes (versus 25% in our last survey), and 55% reporting no change. 19% of polled marketers believe their ROIs on Twitter have deteriorated, a 3pt improvement from our last survey. We will continue to monitor these trends going forward.

Exhibit 27: How has your ROI on Twitter changed over the past 6 months?



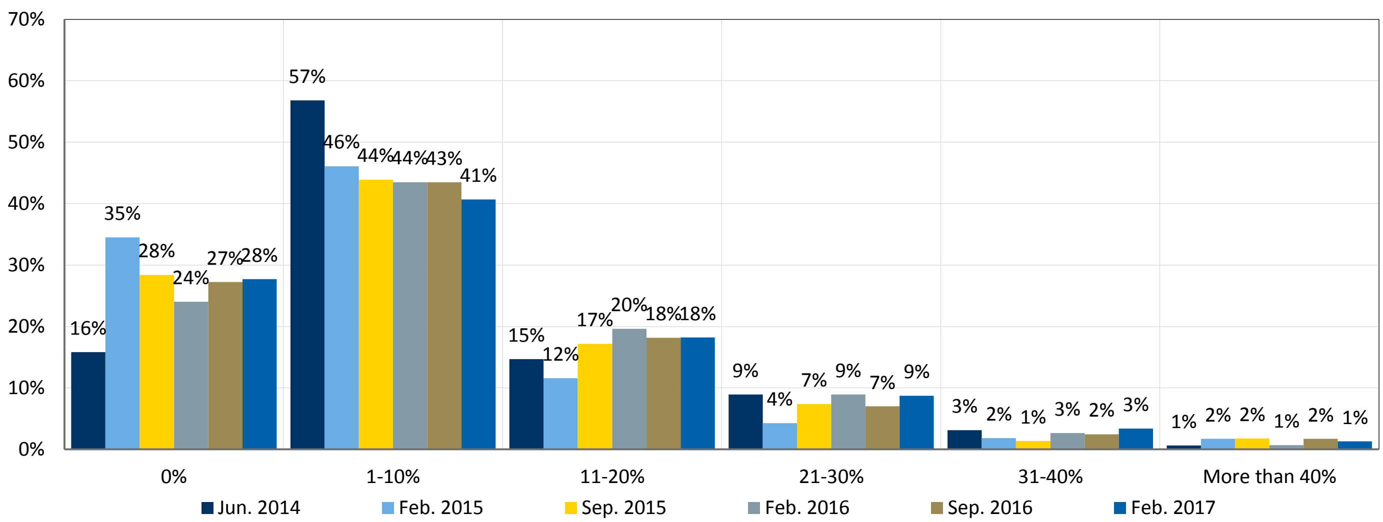
Source: Ad Age, n=526

Takeaways For YouTube

YouTube's survey results continue to be positive, with more marketers utilizing the platform, increased expectations to spend, and improving ROIs. Marketers are, on the whole, satisfied with the ROI and support they are receiving from the YouTube platform and are increasing their budget allocations to YouTube. When compared to FB videos, YT still trails in terms of ROI, but the gap has narrowed a bit from our last survey.

YouTube had the median number of respondents (28%) who do not allocate any budget to it as an Online marketing platform (Google and Facebook have the highest participation, while Snapchat and Twitter have the lowest). This was slightly more negative from our 27% result in September and 24% last year. However, when looking at those who spend more than 20% of their budget on a single platform, YouTube decreased 2pts from September 2016 to 13% this survey, 1pt better than the year ago result. In terms of overall budget allocation, YouTube ranked solidly in the middle.

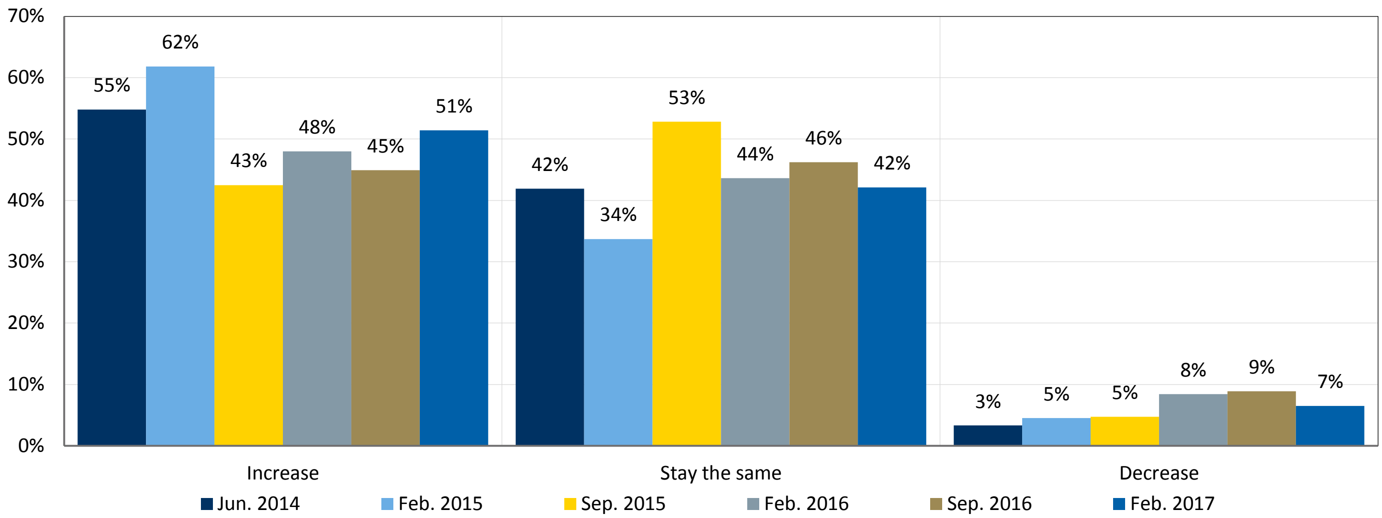
Exhibit 28: What percentage of your Online/Internet budget is currently allocated to YouTube?



Source: Ad Age, n=828

YouTube's percentage of respondents who say they will increase their advertising budgets on the platform over the next year increased to 51% from 45% in our last survey. Further, YouTube's intentions to spend are also in the middle of the five platforms tested. Importantly, only 7% of respondents say they plan to decrease spend on YouTube, which was near Facebook and Google, both at 6%. Overall, we view the skew towards increased spending as a bullish data point for YouTube. We also note that Alphabet management has continued to stress the success they are seeing in terms of growth of the platform, with over 1B hours of video being watched daily.

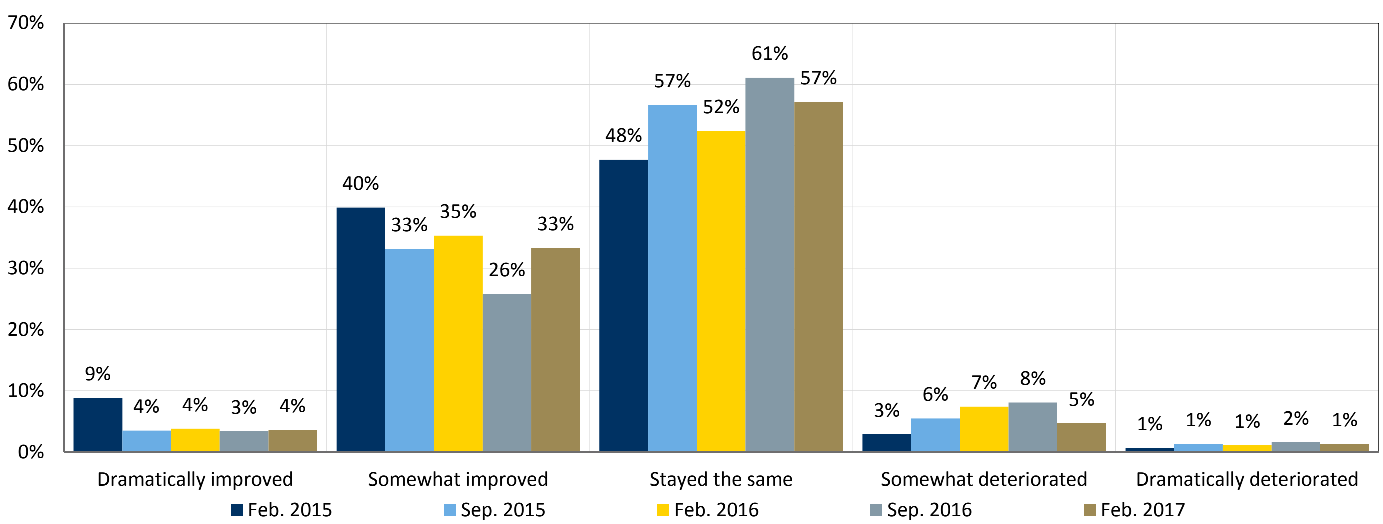
Exhibit 29: Over the next year, I expect my YouTube advertising budget to:



Source: Ad Age, n=613

Perceptions of ROI improvements were also positively skewed, with improvement from our prior survey. This round, 37% of marketers believed that ROI has improved at YouTube, which is behind Facebook and Google's 58% and 47%, respectively, but ahead of Twitter's 27% and Snapchat's 29%. On the other side, just 6% of respondents believe the ROI has "somewhat" or "dramatically" deteriorated, which improved nicely from 10% in September. We view these results as an overall positive indication of YouTube's ability to continue selling inventory and grow the top line due to its perceived value, which appears to be improving overall.

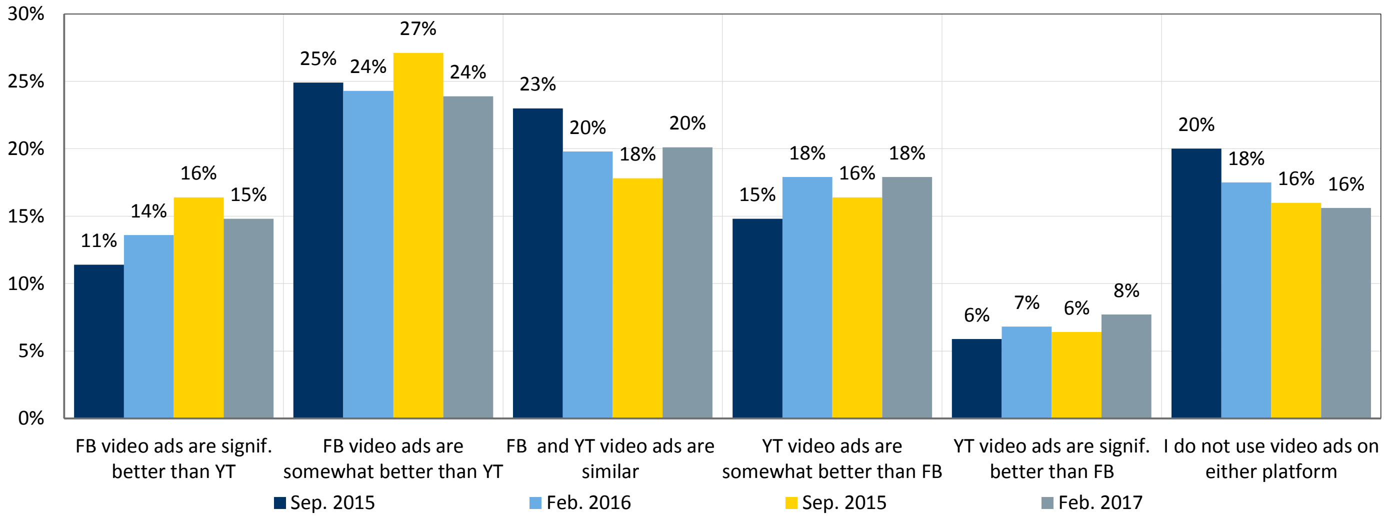
Exhibit 30: How has your ROI on YouTube changed over the past 6 months?



Source: Ad Age, n=613

Finally, we wanted to compare marketers' perceptions of Facebook and YouTube Video Ads from an ROI perspective. We found a skew in favor of those who believe Facebook's Video Ads are "significantly" or "somewhat" better than YouTube's to the tune of 39% vs. 26%, with 20% believing the ROIs on the Video Ad services are similar. This result showed a closing of the gap for YouTube vs. our September 2016 survey which reported 44% FB vs. 23% YT. **Overall, the results were clearly skewed in favor of marketers perceiving Facebook Video Ads as providing better ROIs than YouTube Video Ads, though the gap has narrowed. We believe both of these platforms are among the best positioned to compete for the increasing consumer demand for ad supported Online video.**

Exhibit 31: How would you compare Facebook and YouTube Video Ads from an ROI perspective?



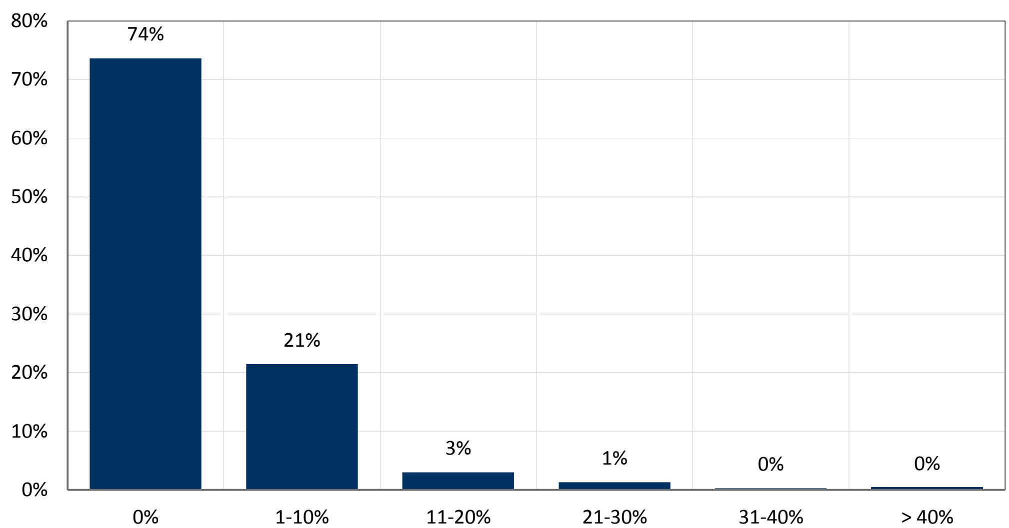
Source: Ad Age, n=698

And…Takeaways For Snapchat

Overall, Snapchat was the least used platform, but has a positive skew in terms of future spend and improving ROIs. Long term, we believe that Snapchat's status as a Mobile and Video offering positions it extremely well, given positive inflection trends in marketers' interest in Mobile and Video, per our survey. For the first time, we tested budget allocations, perceived ROI and future intentions to spend at Snapchat. We will keep monitoring levels here going forward, but results were largely as expected for such an early stage, emerging platform. Generally, the results were ahead of Twitter in terms of ROI and future intentions to spend, but behind Facebook, Google and YouTube.

In terms of specific budget spend, here we found a large majority (74%) of marketers do not yet spend on the platform. For those who do, we would characterize the level as experimental, with only 2% of marketers spending more than 20% of their budgets on the platform, and 24% allocating between 1-20% of their marketing budgets to SNAP.

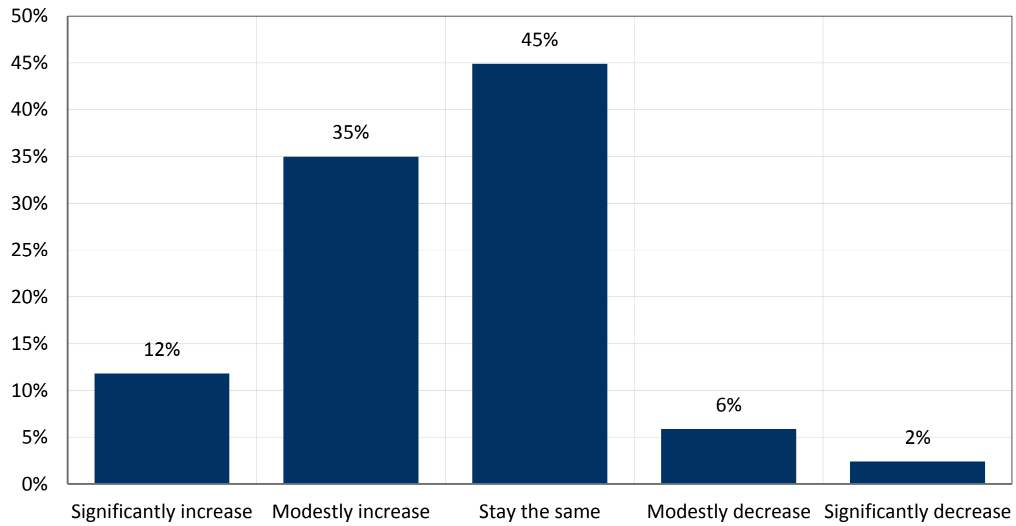
Exhibit 32: What percentage of your Online/Internet marketing budget is currently allocated to Snapchat?



Source: Ad Age, n=824

Looking at the year ahead, our survey suggests a solidly positive skew with 47% of marketers planning to increase their spend next year vs. 8% who plan to decrease. Relative to the other platforms, the 47% ranks fourth behind FB, Google and YT, but notably is ahead of TWTR. **We view this positive skew as a bullish datapoint, but find trend data more interesting, and as such will look to monitor over time.**

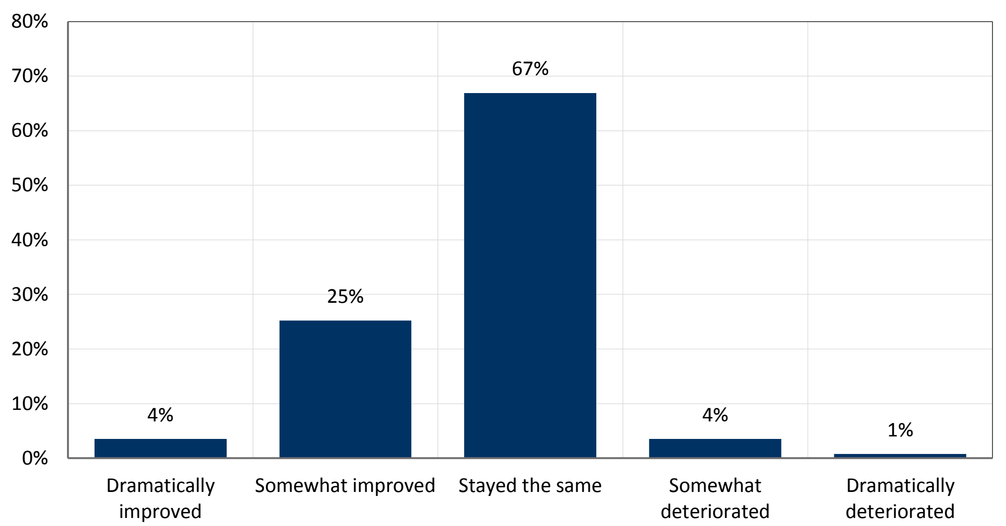
Exhibit 33: Over the next year, I expect my Snapchat advertising budget to:



Source: Ad Age, n=254

We also observed a positive skew in how surveyed marketers view Snapchat's ROIs trending over the last six months. In our February survey, we observed 29% reporting positive changes, and 67% reporting no change. Only 5% of polled marketers believe their ROIs on Snapchat have deteriorated.

Exhibit 34: How has your ROI on Snapchat changed over the past 6 months?



Source: Ad Age, n=254

Appendix 1: RBC Capital Markets Facebook Survey Demographics

In February 2017 RBC Capital Markets conducted a survey of over 1,500 advertising professionals in conjunction with Ad Age to gauge the overall sentiment toward Online marketing.

Exhibit 35: Survey Demographics

Respondent Role	
I am a marketer or client	24.3%
I work for an agency	30.0%
I am a marketing consultant	12.1%
I work for a media company	15.3%
I work for a marketing-services company	7.6%
I am a student, educator, or university employee*	3.4%
Other (please specify)	7.3%

* Excluded from the survey results

Marketing Budget	
Under $500 thousand	25.5%
$500 thousand to $1 million	10.9%
$1 million to $5 million	16.8%
$5 million to $10 million	7.5%
$10 million to $50 million	10.2%
$50 million to $100 million	3.4%
More than $100 million	5.7%
I'd prefer not to disclose	11.8%
I don't know	8.2%

Source: Ad Age, n=1,584

Companies mentioned

Alphabet Inc. (NASDAQ: GOOGL; $835.14; Outperform)
Facebook, Inc. (NASDAQ: FB; $140.34; Outperform)
Twitter, Inc. (NYSE: TWTR; $15.14; Underperform)

Required disclosures

Conflicts disclosures

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RBC Capital Markets has provided Facebook, Inc. with non-securities services in the past 12 months.

Facebook's common shares consist of both a Class A and Class B issue. The holder of each share of Class A common stock is entitled to one vote, while the holder of each share of Class B common stock is entitled to ten votes. Any transfer of shares of Class B common stock will generally result in those shares converting to Class A common stock.

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RBC Capital Markets is currently providing Snap Inc. with investment banking services.

RBC Capital Markets has provided Snap Inc. with investment banking services in the past 12 months.

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Top Pick (TP): Represents analyst's best idea in the sector; expected to provide significant absolute total return over 12 months with a favorable risk-reward ratio.

Outperform (O): Expected to materially outperform sector average over 12 months.

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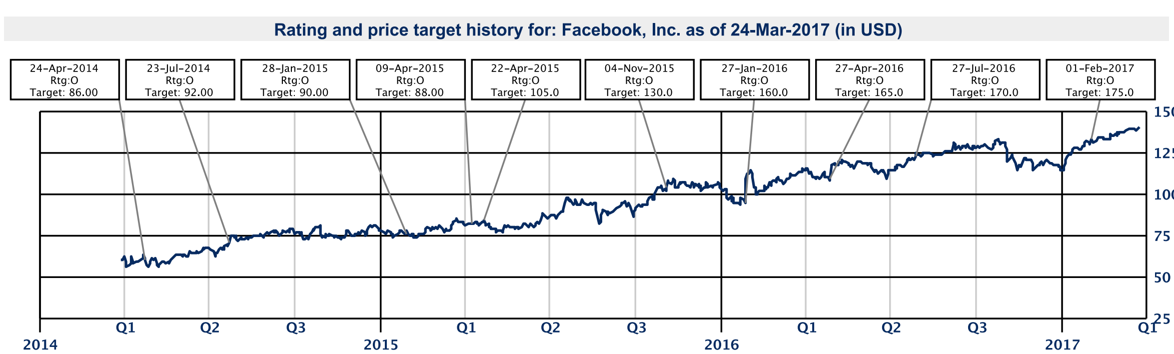
RBC Capital Markets, Equity Research

As of 31-Dec-2016

			Investment Banking Serv./Past 12 Mos.	
Rating	**Count**	**Percent**	**Count**	**Percent**
BUY [Top Pick & Outperform]	824	51.38	289	35.07
HOLD [Sector Perform]	676	42.14	141	20.86
SELL [Underperform]	104	6.48	11	10.58



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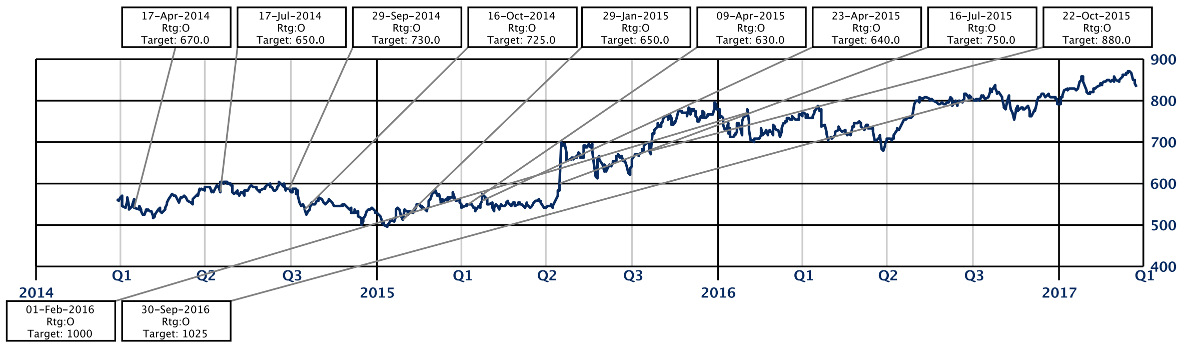
Rating and price target history for: Alphabet Inc. as of 24-Mar-2017 (in USD)



Legend:
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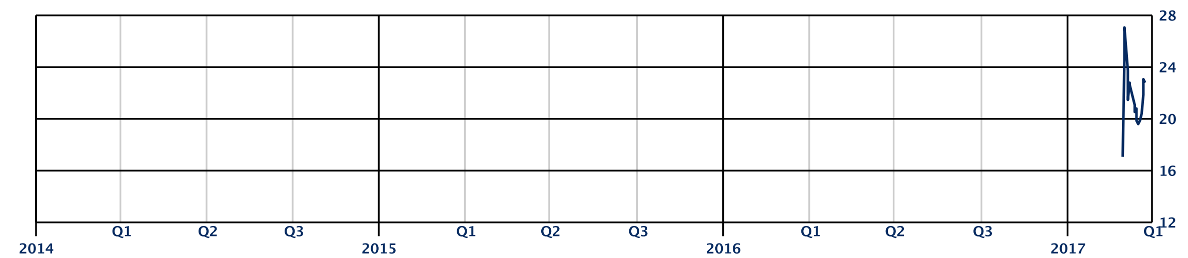
Rating and price target history for: Snap Inc. as of 24-Mar-2017 (in USD)



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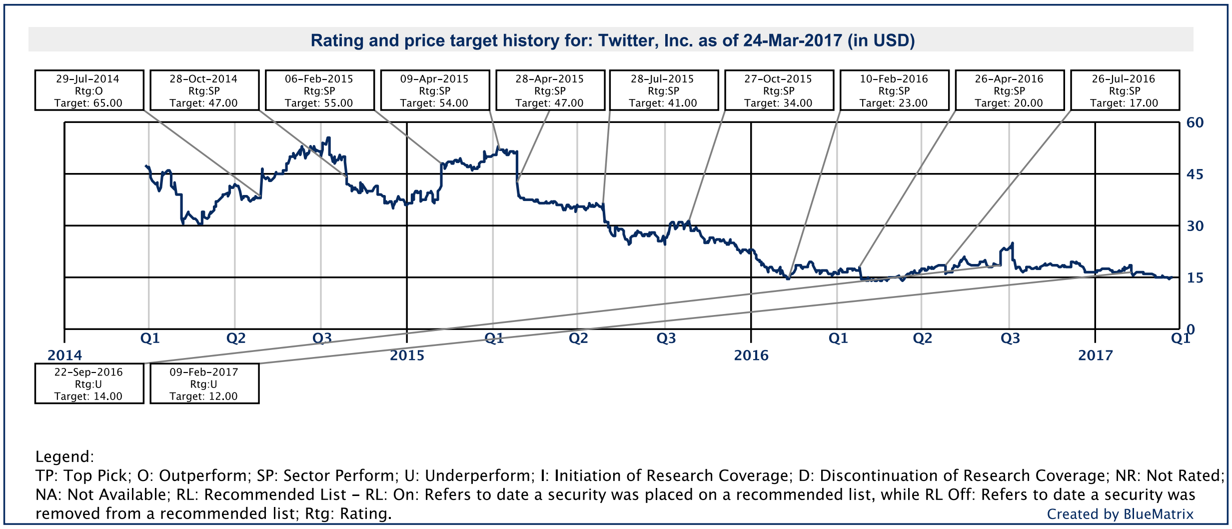

References to a Recommended List in the recommendation history chart may include one or more recommended lists or model portfolios maintained by RBC Wealth Management or one of its affiliates. RBC Wealth Management recommended lists include the Guided Portfolio: Prime Income (RL 6), the Guided Portfolio: Dividend Growth (RL 8), and the Guided Portfolio: ADR (RL 10), and former lists called the Guided Portfolio: Large Cap (RL 7), the Guided Portfolio: Midcap 111 (RL 9), and the Guided Portfolio: Global Equity (U.S.) (RL 11). RBC Capital Markets recommended lists include the Strategy Focus List and the Fundamental Equity Weightings (FEW) portfolios. The abbreviation 'RL On' means the date a security was placed on a Recommended List. The abbreviation 'RL Off' means the date a security was removed from a Recommended List.

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Alphabet Inc.

Valuation

Our $1,025 PT is based on a blended average of EV/“Economic” EBITDA and GAAP P/E. We arrive at $1,025 by applying 16x Target Multiple on 2018E EBITDA of $41.0B and 25x Target Multiple on 2018E GAAP EPS of $38.41. Our PT is also supported by a SOP analysis. These multiples are in line with other Large Cap Internet stocks on a growth adjusted basis, which further supports our Outperform rating.

Risks to rating and price target

1) Regulatory Concerns; 2) Competitive Risk; 3) Mobile Monetization; and 4) European Macro Exposure.

Facebook, Inc.

Valuation

We value Facebook using a blended average of 28x P/E Multiple and 17x EV/EBITDA multiple on our 2018 estimates. In our EBITDA calculation, we are treating Stock-Based Compensation as an expense and not adjusting it out. For key context, we are estimating 36% EPS & 36% EBITDA CAGRs for FB through 2019, which we believe supports these premium multiples. Our $175 Target Price is also supported by a DCF, assuming a 11% WACC and a 3% Terminal Growth Rate. Our price target supports our Outperform rating.

Risks to rating and price target

Risks to our price target and rating include but are not limited to: 1) broad decreasing engagement trends as new competitors arise and take market share; 2) failure to drive significant adoption from major advertising brands; 3) limitations due to regulatory/user actions on privacy concerns; and 4) poor user reaction to site redesign/new product initiatives.

Snap Inc.

Valuation

Our $31 price target is based on a 20x Price/Sales multiple on our 2018E Revenue estimate of $2.2B. We believe that our estimates — 105% 3-year revenue CAGR between 2016 and 2019 – support these admittedly high multiples. We would note that this is a premium multiple compared to other companies in the Internet sector, but we believe is merited given Snap's higher growth rates. Our $31 price target is also supported by a DCF, based on an 11% WACC and a 5% long-term growth rate. Our price target supports our Outperform rating.

Risks to rating and price target

Impediments to Our Price Target Include:

- Highly competitive landscape eroding Snapchat's position and market share.
- The possibility of limited traction and engagement from older demographics.
- The potential for limited International growth.
- Current lack of profitability, with uncertainty around the potential to achieve profitability long-term.
- The potential for further deceleration in user growth given recent trends
- No voting rights for common shareholders.

Twitter, Inc.

Valuation

Our P/S Valuation framework applies a 4.0x P/Sales multiple on our 2018 estimates and a 30x EV/EBITDA (including SBC as a real expense) multiple on our 2018 estimates to arrive at our $12 price target. For reference, these multiples are currently below where TWTR is trading on our 2017 estimates. On an Adjusted EBITDA basis (excluding SBC as an expense), this would equate to 9x our 2018 Adj. EBITDA of $632MM; this is also below TWTR's current trading multiple on our '17 estimates of 19x. We believe this relatively lower multiple is appropriate given the reduced level of topline growth and profitability, as well as the low growth of the user base. Our $12 price target supports our Underperform rating.

Risks to rating and price target

- Competitive Risks – Facebook, which has significant scale advantages, as well as smaller, more dynamic competitors.
- Uncertain Monetization – Twitter monetizes its user base at about half the rate of Facebook and we are not sure it can close the gap entirely. Further, its interest from advertisers appears to be waning.
- Uncertain New Revenue Streams – Data Licensing is becoming immaterial and we see limited potential for non-advertising revenue streams.
- Unproven & Churning Management Team – Relative lack of large public company experience among senior execs and significant turn-over.
- Uncertain International Revenue Expansion – Structurally lower monetization of international users/timeline views.
- Slowing User Growth - MAU growth in the U.S. has slowed meaningfully in recent periods, as has International growth.

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