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Facebook – Can Ethics Scale in the Digital Age?

Unless you are breaking stuff, you aren't moving fast enough.

– Mark Zuckerberg, Facebook Founder, Chairman and CEO, October 1, 2009¹

If you are not paying for it, you're not the customer, you are the product being sold.

– Andrew Lewis (aka @blue_beetle), September 13, 2010²

We know that this was a major violation of people's trust, and I deeply regret that we didn't do enough to deal with it.

– Sheryl Sandberg, Facebook COO in CNBC interview, March 23, 2018³

I'm quitting because I can no longer stomach contributing to an organization that is profiting off of hate.

– Facebook engineer resignation letter after 5 ½ years, September 8, 2020⁴

Your business model itself has become the problem.

– Rep. Frank Pallone (D-NJ), Chair of House Energy and Commerce Committee, during March, 2021 Hearings⁵

By February 2021, Facebook, the global leader in social media, was the world's sixth most valuable company, worth about \$750 billion with a stock that was up 90% in the last year during a global pandemic.⁶ It had more than 2.8 billion users, 7 million advertisers, 9 million third-party apps, and 60 million businesses with landing pages across 54 countries.⁷ Never before had a new technology, enterprise, or service been so rapidly and widely adopted.⁹ In 2020, Facebook users were spending an average of 58 minutes a day on various applications on the platform. Monthly Average Usage (MAU) and Daily Average Usage (DAU) had grown 8% year on year, despite all the growing concerns surrounding the company.¹⁰ The amount of data that it had amassed was challenging to comprehend. Users uploaded 350 million photos every day, made 55 million status updates, and watched 100 million hours of video, much of it on mobile phones. Every 20 minutes, they sent 3 million messages and made 20 million friend requests.¹¹

While the business continued to produce strong results, critics increasingly raised questions around Facebook's handling of three contentious issues:

Firstly, Facebook (and other social media companies) had faced criticism over data privacy. During the 2016 U.S. presidential election, Cambridge Analytica had obtained the personal data of 87 million Facebook accounts without users' knowledge, using the data to create targeted ads for small groups of

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users. The fallout from various quarters of the Cambridge Analytica scandal, coupled with the investigations into voter manipulation during the 2016 U.S. presidential election, fueled more significant debates surrounding privacy, trust, and social media's effect on societal values and ideals. While many users expressed discomfort that their data could be harvested via their friends' accounts despite privacy firewalls, the vast majority accepted the default settings on the platform, and many noted that such data mining was inherent in Facebook's business model.

Secondly, in recent years, critics had drawn attention to how Facebook identified and neutralized potential competitors—most commonly, by copying competitors' most popular features or acquiring such competitors. Instagram and WhatsApp were two often-cited examples. Given the asymmetric information that Facebook had on users, they were often able to “buy the future.” These practices fueled growing calls for investigations into whether Facebook had violated antitrust laws, aiming to protect consumers by allowing for competition in the market. Some had suggested that Facebook and other major technology companies—namely, Google and Amazon—should be broken up into smaller companies to foster more competition. Others argued that these tech giants were innovators/disruptors and risk takers who had built globally successful businesses.

Thirdly, public outrage had been mounting over Facebook's content moderation policies. On the one hand, many perceived such policies as insufficient; during the 2016 election, foreign actors could plant fake news stories on the platform to influence the election's outcomes. After initially denying that Facebook's News Feed impacted the election, Zuckerberg backtracked. The company beefed up its security team and made plans to fact-check news articles on its site.¹² Across nine different categories of content, under the heading of Community Standards, they published quarterly statistics on how effective they were at removing troublesome content with a combination of algorithms and an army of content moderators.

Because of these issues, and the growing lack of progress to address them, various stakeholders wondered if Facebook was fulfilling its responsibilities to society and the health of its user communities or if the “growth-at-all-costs/apologize-later” approach had become the *de facto* operating model. Having built an such a juggernaut of a platform, one focused on driving both the number of users AND their engagement, should Facebook be more intentional about how it managed the impact of its platform across stakeholders? For instance, with an “open platform”, should it be more restrictive in managing its ecosystem of development partners? With users, they presented “opt out” default model for various privacy settings, which very few changed, so were they demonstrating informed consent (i.e., consent given after one understood what was involved)? Had Facebook's customers—advertisers—been complicit in violations of trust or just doing what others were doing in the migration to digital advertising? Should U.S. and EU regulators and/or privacy advocates act more forcefully to curb excesses – even if many of their constituents weren't “pounding the table” relative to other concerns. Where was the board and its governance responsibilities? Should shareholder groups, NGO's and proxy advisory firms be more proactive about Environmental, Social, and Governance (ESG) issues? Facebook had become a business powerhouse and shareholders were well rewarded, but how well were Chairman and CEO Mark Zuckerberg, who owned 60% of the company's shareholder votes through B class shares, and COO Sheryl Sandberg (MBA '95) managing their responsibilities to society?

The Path to the User as Product

Launched by Zuckerberg in a Harvard dorm in early February 2004, Facebook began as a social networking website for Harvard students, used mainly to find dates and establish social connections. The tool—then known as The Facebook—quickly gained a following at Harvard and was eventually opened up to other students in the Boston area and other elite universities in the U.S. In June 2004,

venture capitalist Peter Thiel invested \$500,000 in the young firm, and by the end of the year it had one million registered users. (**Exhibit 1** shows iterations of Facebook's homepage.)

Facebook initially required users to have an ".edu" email address to join, but by September 2006, anyone older than 13 with an email address could register. At the time, Facebook was battling then-social media leader Myspace, launched in 2003, which was a pioneer in the early phases of social media.¹³ Twitter, conceived as a "status" broadcasting mechanism where users could send a message into the ether to be read by all of their "followers," was also emerging as a threat after its March 2006 launch.

In response, Facebook launched its News Feed in September 2006. Generated by an algorithm, the News Feed provided each user with an individual, perpetually-refreshed summary of their friends' posts and updates. Though the launch was initially met with great disapproval, this feature would eventually revolutionize how users consumed information and kept up with their friends' activities. Later in 2006, Facebook incorporated a Share button that allowed users to share content, such as news articles, videos, and photos, on their Facebook pages. As more people began sharing external content, the News Feed included these shared news articles and videos.

In January 2007, Facebook launched its first mobile site, which helped position Facebook not only as a desktop website but accessible to any user with a mobile browser on their cellphone. At the time, the platform was free to use and free of ads. The focus was solely on driving the number of users.

In 2011, just before their IPO in 2012, Facebook began to turn their attention to the rapidly growing base of smart phones. The move to mobile harnessed humans' addictive tendencies. Smartphones, and the constant engagement they provided, triggering the release of dopamine in the brain, creating the same types of reward pathways in the brain that a slot machine could.¹⁴ However, while many people craved the "hit" of social media engagement, including Facebook likes, many found the constant activity harmful to their self-esteem and confidence, while others worried that their real lives did not compare favorably to the curated versions of lives others displayed on social media.¹⁵ As with other media, advertising dollars followed time users spent on the new medium.

Toward a Platform for Targeted Ad Placements

May 2007 saw the Facebook Platform launch, enabling developers to build applications that could be directly integrated into Facebook.¹⁶ This opened the floodgates for outside applications and games and became the basis for a robust ecosystem that attracted users, recruited partners, and served advertisers with very detailed information profiles.

In October 2007, Microsoft bought a 1.6% share in Facebook and negotiated the right to feature international ads on it. The Microsoft deal was one aspect of a larger project to create what would soon become a powerful marketing platform. One month later came Facebook Beacon, which sent data from 44 external partner websites to Facebook. Through Beacon, users' activities on partner sites could be shared to friends' News Feeds. That same day, Facebook Pages was launched, enabling famous people, brands, causes, and businesses to use the platform to build connections and increase their exposure and reach.

At this time, Zuckerberg was looking for a partner to help manage his fast-growing company. He ran into then-Google executive Sheryl Sandberg at a dinner party in late 2007. A one-hour conversation by the front door led to a series of dinners at Sandberg's home in early 2008. They got to know each other by posing philosophical questions like, "What do you believe? What do you care about?"¹⁷

Sandberg joined Facebook as COO in March 2008 to lead all business operations, including advertising, strategy, hiring, and political and public interfacing.¹⁸ Sandberg hoped to usher in a new

era at Facebook and transform it from an organization that was “bleeding cash” into a revenue-generating business.¹⁹ Sandberg reportedly outlined two potential revenue models for monetizing Facebook’s traffic: user subscriptions or advertising. Facebook chose the latter, selling targeted ads on desktop and, later, mobile devices, and never looked back.

To promote site visits and activity, in 2009 Facebook launched its “Like” button for users to flag posts and content they found compelling. In doing so, users shared a great deal of information about themselves and their friends.

In 2010, Facebook launched Open Graph API, a developer tool that gave external parties access to user data, including name, gender, birthday, education, and even a user’s private messages.²⁰ Third-party apps had to ask users for permission before accessing their data, with one critical exception: if an app asked for access to data on a user’s Facebook friends, and the user accepted, the app could access that data without getting explicit permission from the user’s friends.²¹ Zuckerberg touted Graph API as a way to make the Web more social and improve users’ experiences in third party applications. Between 2010 and 2014, the Open Graph API v1.0 effectively enabled anybody to collect very detailed, user-level data. Later on, the SEC would ask about Facebook’s disclosures during this period.²²

By 2014, Facebook had become more concerned about data privacy, and Open Graph API v2.0 restricted access to users’ friends’ data.²³ One writer called this “a classic case of closing the barn door after the horses had escaped.”²⁴ It was also through this proverbial barn door that Cambridge Analytica (and others) obtained access to data on millions of users.

Attention Merchants

By 2009, Facebook had catapulted past Myspace, which lost visibility and public relevance after its 2005 acquisition by News Corp. Facebook expanded its reach with a series of acquisitions of competing platforms, most notably photo-sharing site Instagram for \$1 billion in 2012. Along with Instagram’s application technology, the acquisition gave Facebook data for 30 million users.²⁵ Five years later, Facebook acquired messaging app WhatsApp for \$19 billion. Taken together, these efforts positioned Facebook to compete directly with Google, whose omnipresent role in search and mobile operating systems made it the dominant force on the Internet. Facebook’s large-scale aggregation of social connections gave the world an alternative to the ubiquitous hyperlinks of search and created a competitive advantage for the company.

Facebook and Google had become a “digital duopoly.” The *Wall Street Journal* reported that Facebook and Google together accounted for nearly half of global spending on digital advertising and 77% of growth in the U.S. online advertising market in 2016.²⁶ They had also built tremendous influence with users, particularly in the U.S., where 66% of the population got their news from Facebook.²⁷ One author nicknamed them the “Attention Merchants,” referring to the way they had essentially monetized consumers’ attention.²⁸ As an indication of the strength of the duopoly, some investors/analyst were arguing that Twitter, another leading social media platform, should shift its business model (from advertising to tiered subscription) because even they couldn’t compete with the scale of Facebook and Google.²⁹

Facebook maintained a broad user base in the U.S., with 68% of adults citing the platform as their primary social media outlet in 2018.³⁰ (See **Exhibit 2** for user distribution by gender and age) Of the country’s 214 million users, 58.3 million were 25-34 years old, 42.4 million were 35-44 years old, and 47.6 million were 55 years old and older.³¹ Americans aged 18-24 years old accounted for 39.4 million Facebook users.³² In 2018, a reported 80% of all Americans aged 17-24 were on Facebook, while 71% maintained active profiles on Instagram.³³

In 2017, Facebook's revenues reached \$40.7 billion, 87% of which came from mobile ads, up from 3% in 2008. The company's EBITDA exceeded \$25 billion, and its EBITDA margin of 57% was nearly three times the EBITDA margin percentage of the S&P 500. Shareholders were rewarded handsomely. Between the company's May 2012 IPO and the end of 2017, Facebook stock had quintupled, from \$38 a share to \$180, creating a market cap of over \$500 billion. Outside of China, which both Google and Facebook had exited years before, Facebook had built unmatched scale throughout the globe.

For 2020, Facebook delivered revenues of \$84 billion, up 21% from the prior year, with operating margin of \$33B, up 36%, continuing to generate operating leverage off of scale. Zuckerberg commented on the results, "We had a strong year as people and businesses continued to use our services during these challenging times. I'm excited about our 2021 product roadmap as we build new and meaningful ways to create economic opportunity, build community and help people have fun."³⁴

Continuing to pursue growth, in March 2021, Facebook announced that they were planning to create a version of Instagram for children under 13 years old – arguing they were getting requests to provide a safe product and lower their existing limitations on age of user.³⁵ Some saw it as a particularly troubling sign.

The Ultimate Surveillance Machine

"A Breach of Trust"

As the promise of Facebook's platform became more apparent, and interest in machine learning and predictive analytics increased, many researchers investigated how to use the massive troves of Facebook data to tailor targeted advertisements and recommendations. In January 2015, the University of Cambridge and Stanford University published a study in which researchers used an algorithm to look for correlations between what users had "Liked" on Facebook and their answers to a 100-question personality survey, *myPersonality*, which assessed whether individuals possessed five traits: openness, conscientiousness, extraversion, agreeableness, and neuroticism.³⁶

In many cases, the algorithm proved to be better at predicting personality traits than users' family and friends.³⁷ Using just 10 of a user's "Likes," the machine was more accurate at guessing the user's traits than a colleague; with 150, more accurate than the user's family; and with 300, more accurate than the user's spouse.³⁸ "We're walking personality prediction machines," noted a Stanford computer science professor, "but computers beat us at our own game."³⁹ The University of Cambridge later developed a more complex Trait Prediction Engine (shown in **Exhibit 3**) to be applied more broadly.

In 2014, private marketing research firm Global Science Research (GSR) and Cambridge Analytica proposed a partnership with the researchers who had developed the *myPersonality* app.⁴⁰ The researchers refused and GSR created its own personality quiz, *This Is Your Digital Life*. The quiz surveyed 270,000 users, but through the Open Graph API, it could also access users' friends' accounts, thus allowing GSR to "scrape" the data of an estimated 87 million people.⁴¹ GSR then shared the data with Cambridge Analytica, which sold it to advertisers working for Donald Trump's presidential campaign. The campaign claimed to use the data in the 2016 primaries, but not the general election.⁴²

In March 2018, reporters broke the story of Cambridge Analytica's mass collection and distribution of Facebook user data.⁴³ After five days of silence, Zuckerberg issued a statement on Facebook: "This was a breach of trust between Kogan, Cambridge Analytica, and Facebook. But it was also a breach of trust between Facebook and the people who share their data with us and expect us to protect it. We need to fix that."⁴⁴ In her own Facebook post, Sandberg added: "We have a responsibility to protect your data – and if we can't, then we don't deserve to serve you."⁴⁵

User outrage over the exploitation of personal data was swift and vocal. WhatsApp co-founder Brian Acton, and Elon Musk, entrepreneur and Tesla CEO, joined the #DeleteFacebook movement that swept the Internet in March and April 2018. Other industry leaders and legislators joined the growing chorus of critics, including Snapchat CEO Evan Spiegel and Salesforce CEO Marc Benioff. They had previously been critical of Facebook's effects on individual health and wellbeing.⁴⁶

Apple in particular had been critical of Facebook's approach to privacy. When asked to comment on Facebook's privacy policy, Apple CEO Tim Cook stated, "Privacy is a human right to us. It's a civil liberty.. You are not our product. You are our customer. You are a jewel." When asked, how he would handle Facebook's situation, he remarked "I wouldn't be in that situation."⁴⁷

While recent revelations had caused some stakeholders to reflect on the harm, whether real or perceived, to users and society as a whole, Facebook's operating model had enabled this kind of exploitation for some time.

Although the Cambridge Analytica revelation ignited public discourse around user privacy rights, news sources reported this kind of data mining for several years. It was also not the first time Facebook had been used to influence politics. In the 2012 U.S. elections, Barack Obama's presidential campaign developed their own application and invited voters to download it, leveraging the same API to build profiles of users and friends. Instead of using the profile information to sell ads, they used it to encourage users to message each other to register to vote.⁴⁸

In June 2018, the *New York Times* reported up to 60 device manufacturing companies, including Apple, Amazon, and Samsung, had been able to access Facebook users' friends' data for nearly a decade.⁴⁹ Of particular concern to the U.S. intelligence community was the access granted to several Chinese manufacturers, notably Huawei, the subject of prior investigations around national security risks.⁵⁰ Facebook responded that they had not violated user-privacy agreements because it "does not need to seek additional permission to share friend data with service providers."⁵¹

Another Six-Point Plan

In conjunction with Zuckerberg's March 2018 post, Facebook released a six-point plan to prevent further abuse of the platform, promising more changes to come as the company sought to "put people more in control of their data."⁵² (See **Exhibit 7** for the six-point plan.) This followed the style of a seven-point plan announced in 2016 to combat misinformation.⁵³ Some of the six steps were broad, like "Review our platform," and some were more specific, like "Turn off access for unused apps." However, Facebook did not appear to solicit general feedback from stakeholder communities impacted by their plans, including users, investors, advertisers, and lawmakers.

Facebook also phased out its Partner Categories program, which enabled third-party data brokers to access Facebook information for targeting capabilities, simplified their user tools to adjust privacy settings by rolling out Privacy Shortcuts, and amended the charter of the board's audit committee to take on broader responsibility for privacy oversight.⁵⁴

In March 2019, Zuckerberg announced a "pivot to privacy"⁵⁵ — saying that the company would seek to tightly integrate and encrypt the communications across Facebook Messenger, Instagram and WhatsApp. He characterized it as a move away from the "public square" to be more aligned with how users were increasingly using the services.⁵⁶ Others wondered if this was a preemptive move to make it more difficult to break up the companies' applications.

Platforms and Anti-Trust

Some had suggested that the digital duopoly of Facebook and Google, along with Amazon, controlled markets and should therefore be split up or be precluded from acquiring potential competitors or adjacent digital properties.

Facebook had developed a reputation for identifying up-and-coming apps, such as Instagram, and then using its resources to acquire and copy them. In 2013, Facebook purchased Onavo, a virtual-private-network (VPN) company, which gave it access to detailed user data on the apps people used, letting Facebook identify potential competition.⁵⁷ Months after its executives identified messaging app WhatsApp as a potential threat, particularly with its user base outside the US, Facebook acquired the company for about \$22 billion.⁵⁸ In 2013, Snapchat turned down Facebook's offer to buy the platform. After that, Facebook, adopting an unofficial slogan of "don't be too proud to copy," set out to replicate Snapchat's most popular features, such as face filters and Snapchat Stories, where users could post photos or videos for their followers that could only be viewed for 24 hours.⁵⁹

Some analysts had suggested that the U.S. government had "missed a big opportunity" to more closely review the Instagram acquisition for antitrust concerns.⁶⁰ Others countered that the market had toppled many once apparently invincible tech players, such as AOL, Yahoo, Nokia, Blackberry, and Myspace.⁶¹ Since 1978, the principal U.S. interpretation of antitrust law stemmed from Judge Robert Bork's landmark rulings, which focused on consumer harm, defined as notably higher prices, making it challenging to prove an antitrust violation for services that were technically free to the consumer. Since Facebook did not charge customers to use its platform, this standard did not apply.⁶²

In early 2019, a Yale Law School graduate and former digital advertising executive Lina Khan published an article arguing that Facebook constituted a monopoly even though it did not sell services to customers. She argued that, instead of raising prices, Facebook essentially charged users by requiring them to provide more and more personal data to use the platform.⁶³ This argument quickly picked up steam amongst those who believed Facebook should be broken up.

In July 2019, Facebook revealed to investors that the Federal Trade Commission had launched an antitrust investigation into the company.⁶⁴ In September 2019, multiple state attorneys general, led by New York, announced a bipartisan investigation into Facebook's antitrust practices.⁶⁵ Several weeks later, the U.S. Department of Justice followed suit.⁶⁶ By February 2020, the European Union (EU) had also launched an antitrust investigation into Facebook.⁶⁷ This investigation focused in part on Facebook's use of Onavo's VPN data.

In June 2020, a German court ruled that Facebook violated antitrust laws by harvesting and processing large amounts of user data across its various platforms and third-party websites and apps.⁶⁸ (This ruling used basically the same logic as the law journal paper, arguing that consumers had to provide vast amounts of data or otherwise be completely shut out of social media and the value associated with it).

In December 2020, the U.S. federal government and 48 state attorneys general filed a 53-page antitrust lawsuit against Facebook.⁶⁹ The lawsuit focused on Facebook's acquisitions of Instagram and WhatsApp, arguing that they demonstrated a pattern of neutralizing potential competitors before they became threats.⁷⁰ Facebook argued that the lawsuits were "revisionist history" as the Federal Trade Commission (FTC) had reviewed both deals and had opportunities to block both of them.⁷¹ Facebook had made 89 acquisitions since its founding in 2004.⁷²

In anticipation of antitrust lawsuits, Facebook proposed to regulators that they help build a potential competitor by giving the competitor access to its proprietary code. Regulators rejected the idea.⁷³

Content Moderation and Politics: The “Impossible Job”⁷⁴

In February 2018, the U.S. federal government indicted 13 Russian military officers and three Russian entities accused by Special Counsel Investigator Robert Mueller of interfering with the 2016 U.S. presidential election primaries, in part by purchasing Facebook ads (reportedly a total of \$46,000), prior to the election to foment discord among Trump, Hillary Clinton, and Bernie Sanders voters. The Mueller investigation revealed that one Russian group spent thousands of dollars a month on ad campaigns across social media outlets.⁷⁵ In comparison, the Trump and Clinton campaigns spent an estimated \$81 million on Facebook ads during the election.⁷⁶

The Russian misinformation campaign was merely one example of Facebook’s struggles to maintain effective content moderation. Research showed that humans repeated gossip and “facts” that buttressed their points of view. One study showed that lies spread faster than the truth on Twitter. “On average, it took true claims about six times as long as false claims to reach 1,500 people, with false political claims traveling even faster than false claims about other topics, such as science, business, and natural disasters,” wrote the study’s authors.⁷⁷ The word “weaponized” entered the vocabulary to describe the alleged role of social media platforms in worsening political polarization around the world.⁷⁸

When they started, companies such as Facebook and Google successfully avoided regulation that would, for example, apply to media companies. Government officials viewed them as neutral platforms for public interaction, and very few had expected them to become integral parts of global, national, local, and personal communication.

However, as these tech companies developed sophisticated algorithms, that learned to build off of user data to generate personalized content and then dynamically respond, it became clear that the platforms had a hand in content curation and exposure.⁷⁹

This problem presented a business opportunity. In 2018, a new crop of startups began to emerge that specialized in assisting corporations, including social media platforms, to better manage and fight the proliferation of targeted false campaigns. New Knowledge, a startup based in Austin, Texas, utilized a team of former intelligence workers to develop AI software that could extract indications of manipulation within user accounts.⁸⁰ The startup claimed that by monitoring how bad actors could “plant seeds” in individual accounts and paid advertisements, it could inform companies and social media platform clients that bad influencers were attempting to manipulate their customer base. Clients could then be shown how to prevent such manipulation.⁸¹

A headline described the challenge as “The Impossible Job: Inside Facebook’s Struggle to Moderate Two Billion People.”⁸² Technical, as well as moral and legal challenges existed. Artificial intelligence could identify most pornography, spam, and fake accounts, but it could not reliably identify hate speech.⁸³ Even if AI could identify hate speech, laws (and their enforcement) differed from country to country. Users posted in more than 100 languages, and Facebook’s human content moderators would have to review more than 10 million potentially rule-breaking posts per week. Facebook aimed to conduct these reviews with an error rate of less than 1%, and to review all user-reported content within 24 hours. But Facebook’s own targets guaranteed tens of thousands of moderation errors per day.⁸⁴ The shift “from reactive to proactive detection is a big change,” Zuckerberg admitted in August 2018.⁸⁵

In addition to dealing with privacy violations, social media platforms faced calls to both moderate content *and* not moderate content. During summer 2018, Facebook had been attacked from all sides: by conservatives, for what they perceived as liberal bias; by liberals, for allowing white nationalism and Holocaust denial to proliferate on the platform; by governments and news organizations, for allowing fake news and disinformation to flourish; and by human rights organizations, for facilitating gender-based harassment and live-streamed suicide and murder. Facebook had even been blamed for contributing to genocide.⁸⁶ Often, what critics really wanted was greater transparency about Facebook's rules—or more simply where Facebook drew the lines—as Facebook's published Community Standards guidelines were viewed as too abstract.

In October 2019, the Court of Justice of the European Union (CJEU) ruled that Facebook must take down hateful content on its platform globally.⁸⁷

Company Response

Some argued that part of the problem was that Facebook had been unwilling to hire more moderators. In the earlier days of Facebook, they had a very modest-sized effort to curtail fake news and moderate content. As part of the new plan, Zuckerberg had indicated Facebook might increase its security team by as many as 30,000 people by the end of 2019, up from 3,000 at the time of the crisis. These employees and/or contractors would review content, remove offensive posts, and delete fake accounts. For a company with 25,000 employees, this was a material head count addition, and the impact on its operating margin was an obvious concern.⁸⁸ Beyond broad statements, Facebook initiated a number of specific efforts, including taking down 583 million fake accounts and 837 million pieces of spam in Q1 2018, which Facebook estimated was 3-4% of all accounts.⁸⁹

In 2019, Facebook spent more than \$3.7 billion on “platform safety,” equivalent to approximately 5% of its total revenue.⁹⁰ That year, the company also began publishing quarterly transparency reports on nine different content categories, giving details on the proactive steps that they used to moderate content before users saw it.⁹¹ Using an army of nearly 30,000 contractors and significant AI investments, Facebook took down 2 billion fake accounts in Q2 2019, including high percentages of spam, terrorist content, and nudity.⁹² Both hate speech and bullying remained categories where further improvements were needed.⁹³ In the spring of 2019, Zuckerberg announced his intention to create a “Supreme Court” of content moderation, comprised of roughly 40 people who would “rule” independently on various policy issues around content moderation.⁹⁴ Total headcount in the Safety and Security function rose to about 30,000—most of them contractors in 3 global locations, whose average annual wage was \$28,000 compared to the \$280,000 for the average Facebook employee.⁹⁵

Nevertheless, the problem remained pressing. U.S. political spending on social media was up 25x between the 2014 and the 2018 midterm elections,⁹⁶ and expectations for 2020 election spending on social media were growing accordingly. Violent acts were often livestreamed on Facebook Live, including a New Zealand mass shooting at a mosque in the city of Christchurch in March 2019. In May 2019, Facebook announced stricter rules on livestreaming, which banned anyone from sharing “violating content” for a set period of time.⁹⁷

Potential Forces for Change

Internal and external stakeholders were reviewing the situation and suggesting action. In particular, there was a growing chorus of comments around regulatory and investor concerns. However, voices from others in the industry, including direct competitors and advertisers, were mostly silent.

Different Business Models Considered?

Although mooted in some circles as a way to better align user interests with Facebook's, there was some debate around changing the Facebook business model to a subscription-based approach. To do this, Facebook would have to replace lost advertising revenue (\$40 billion in 2017⁹⁸) with subscriptions and continue to grow the topline.

An average revenue per user analysis was not very insightful given the wide range of values achieved in different markets. Facebook's average revenue per user (ARPU) was \$82 a year for U.S. users and circa \$27 a year for EMEA users, and much lower in other parts of the world. While much of the recent drama impacting Facebook was centered on U.S. elections, almost 90% of Facebook's 2.2 billion users were outside of North America.⁹⁹ Some were skeptical a new business model approach would work, particularly given that the type of user who would pay to opt out of data sharing was inherently more valuable to advertisers and that Facebook's "next billion users" were likely to come from Africa and elsewhere, where incomes and ARPUs were materially different.¹⁰⁰

Dislikes in the Ranks

As Sandberg and Zuckerberg continued to lead their team, several dissenting voices began to emerge, including current and former employees, highlighting tensions that Facebook had long wrestled with. Five voices were particularly prominent:

Sandy Parakilas, who led Facebook's efforts to fix privacy problems before its 2012 IPO, said that he felt the company consistently prioritized data collection over privacy and that he was doubtful the company could self-regulate. When he once proposed a deeper audit of a developer's use of Facebook's data, one executive reportedly asked him, "Do you really want to see what you will find"?¹⁰¹

Andrew "Boz" Bosworth, who was in charge of Facebook's ad strategy, wrote a controversial 2016 memo called "The Ugly," pointing to the rationale for growth at all costs. Among other things, he argued that "connecting more people is a de facto good." That's why all the work we do in growth is justified."¹⁰² Zuckerberg later downplayed the memo, as did Bosworth.¹⁰³

Alex Stamos, head of Facebook security, advocated for more disclosure about Russian interference on the platform and pushed for greater efforts to prevent disinformation. Stamos's responsibilities had been reassigned to others, and he announced he would leave the company later in 2018.¹⁰⁴ In a candid memo leaked to BuzzFeed in July 2018, Stamos suggested, "We need to build a user experience that conveys honesty and respect, not one optimized to get people to click yes to giving us more access."¹⁰⁵

Elliot Schrage, Facebook's VP of Communications and Public Policy, told *Barron's* in a March 2018 interview that "we overinvested in new services and underinvested in building protections."¹⁰⁶

Finally, in a wide-ranging July 2018 interview with *Wired*, Chris Cox, a 13-year veteran of Facebook and the company's Chief Product Officer, opined that Facebook had revisited how they managed the business and felt like the company needed to shift how it approached key issues, such as utility versus privacy, publishing versus platform role, and only using internal fact-checkers versus involving third parties.¹⁰⁷ Was this a convenient awakening now that Facebook had unmatched scale?

Users and Society

Nearly two-thirds of the 33,000 respondents of a U.K. 2018 survey felt that online companies were not regulated enough, lacked transparency, and sold user data inappropriately.¹⁰⁸ More than half felt the companies preyed on user loneliness, and a third thought social media was not a force for good in society.¹⁰⁹ Almost two-thirds (64%) wanted stronger government regulation of social media

companies, although only 36% of those polled considered the government to be trustworthy.¹¹⁰ (Exhibits 4, 5, and 6 show the results of various trust surveys.) Most polls continued to indicate significant trust gaps amongst users and concerns that social media in general and Facebook were doing more harm than good.¹¹¹

The growing use of psychographic profiles instead of demographic profiles was increasingly disconcerting. Psychographic data was far more intimate, involving information about a user's activities, opinions, and interests (AOI), compared to demographic data, leading many people to feel more vulnerable (Exhibit 8 illustrates some of the key differences between profiles types. Exhibit 9 shows the extraordinary level of user and friends' data available via Open Graph V1.0).

Even if Facebook contended that it had been clear about how user information would be shared and used, users might have felt they were not operating under informed consent, as Facebook's terms of service were lengthy, technical, and dense, often full of legal language and therefore hard to comprehend. Furthermore, how and with whom Facebook shared data with was not always clear. In February 2018, a regional court in Berlin, Germany, had found that Facebook had not provided enough information to allow for informed consent of its users, and ruled that Facebook could not send personal data to the U.S. for commercial use.¹¹² Not surprisingly, Facebook was appealing the ruling.

In 2019, the German competition agency issued a ruling on Facebook's data, allowing users to reject Facebook's automatic combination of a user's personal data and the data they generate on other websites. The agency found that Facebook (and other Facebook-owned social media) so dominated the social media market that consumers did not have a real choice in sharing their data, unless they opted out of Facebook completely.¹¹³ While this ruling was appealed, the German high court upheld the decision in June 2020, forcing Facebook to change its data collection procedures in Germany.¹¹⁴

Was there a greater societal concern over the impact of social media in general and Facebook in particular? The research was mixed on causality and correlation.¹¹⁵ Even before March 2018, there was real concern about how Facebook, and other major technology firms, would shape society over the next 10 years (as shown in Exhibit 10). However, two pretty clear themes had emerged from academic research: social media and smartphones were addictive, and when users used them actively—posting pictures and content—there tended to be more “positive” engagement. By contrast, passive consumption (e.g., bored and scrolling through materials) was more corrosive and depressing. Many reports highlighted the open question about the long-term consequences of the attention spent on “hand held slot machines with dopamine-driven feedback loops”.¹¹⁶ Further studies continued to illustrate the mental health and other harms associated with social media.¹¹⁷

As such, users continued to volunteer valuable information in exchange for targeted/relevant ads and a free service. Did they really have the capacity to understand what they were giving up? Given the prominence of Facebook in various activities and communities, deleting one's account was unlikely. It seemed that there was a real tension between *Caveat Emptor* (buyer beware) and *Caveat Venditor* (seller beware) over who had the greater responsibility for user privacy concerns.

Privacy Advocates and Independent Review Boards

Historically vocal data privacy groups, including Electronic Frontier Foundation, Center for Democracy and Technology, and Open Technology Institute, who had long advocated for stronger privacy and surveillance laws regarding government access to individual data, had remained absent from the national outcry for protective legislation. Some advocates claimed that regulating Facebook or company access to digital data more generally might not be the best response. One researcher at the Electronic Frontier Foundation stated, “I think the better tack to take is to take a couple steps back first and ask, ‘What privacy protections do we need that we are missing,’ and second, ‘What rules or other

mechanics are available to get those privacy protections that perhaps we haven't been using?"¹¹⁸ Kevin Bankston, then-director of the Open Technology Institute, added that his organization supported privacy legislation, but that he would not "speak to hypothetical 'regulation.'"¹¹⁹

Unlike in other industries, an independent review board for social media and digital content had yet to emerge. In a 2018 interview, Zuckerberg commented on his desire for a secondary review committee similar to that of the Supreme Court, stating, "Over the long term, what I'd really like to get to is an independent appeal. So maybe folks at Facebook make the first decision based on the community standards that are outlined, and then people can get a second opinion."¹²⁰ He further commented, "You can imagine some sort of structure, almost like a Supreme Court, that is made up of independent folks who don't work for Facebook, who ultimately make the final judgment call" based on societal norms and values.¹²¹

Lawyers and Regulators

There was a range of considerations for what type of regulation made sense for social media in general and Facebook in particular. Zuckerberg himself, in a *Washington Post* op-ed, called for more regulation, imploring the government to focus on "new rules for the internet," primarily around four topics: privacy, harmful content, election integrity, and data portability.¹²² Facebook, along with Google, Apple, and Amazon, had significantly beefed up their U.S. lobbying resources to influence various agenda items, reportedly spending over \$50 million in 2017 to lobby Congress.¹²³ Furthermore, there appeared to be a meaningful knowledge gap that hindered the ability of Congress and others to regulate Silicon Valley.¹²⁴

Regulators and government officials needed to be more proactive as they considered whether and/or how to hold tech platforms liable for the content uploaded to their sites. Lawmakers struggled with two competing risks. First, requiring social media groups to continually monitor their content inadvertently diminished competition from small companies that could not afford the capacity to hire content monitors to police their sites, something the largest tech platforms had the resources to invest in.¹²⁵ Secondly, requiring companies such as Facebook to regulate and censor content risked the possibility that tech platforms could become "ministries of truth," put in a position of selecting and delineating what billions of users, across differing cultures, political backgrounds, traditions, should see across the globe.¹²⁶ Facebook appeared to struggle to balance their "free speech" mantra with the growing chorus of concerns.¹²⁷

The more frequently considered approaches appeared to be:

Revisiting the exemptions to existing laws for social media players In the U.S., Section 512 of the Digital Millennium Copyright Law gave copyright owners a legal recourse to go after social media players for infringement. There was a well-defined process to provide Digital Rights Management (DRM) – which required parties to file a notice with the company, ask them to take it down, if not sue) thus providing clear legal liability for copy-written content. However, Section 230 of the 1996 Communications Decency Act exempted the same firms from liability for publishing other people's material – or user-generated content – on their platforms. While traditional media businesses (e.g., Newspapers, Radio, TV) faced legal liability for their editorial curation of content, social media firms and other internet platforms did not.

Fines from the 2011 Consent Decree Facebook had settled a suit brought by the FTC for not adequately protecting user interests in 2009 after making several changes to the platform. The settlement contained a 20-year agreement for privacy audits every two years. However, the 2017 audit of Facebook by PricewaterhouseCoopers missed the Cambridge Analytica activities.¹²⁸ The FTC

announced in March 2018 that they were conducting a new investigation. From a regulatory standpoint, the FTC was not allowed to issue fines on a first settlement, only on subsequent breaches of the settlement. With an exposure potential of \$40,000 per user per day, large figures were being thrown around as potential fines.

Passing the Honest Ads Act The Honest Ads Act was legislation that aimed to address Russian interference in the 2016 elections. The bipartisan bill would push digital platforms to show users the funding source of political ads.¹²⁹ First introduced in October 2017, the act gained new traction after the Cambridge Analytica scandal, including Zuckerberg's support.¹³⁰ Even without legislation, in May 2018 Facebook announced it was adding "paid for" labels on the platform to political and issue ads.¹³¹

Implementing data protection legislation There was also some speculation that the U.S. might replicate or adopt, with slight modifications, the EU's General Data Protection Regulation (GDPR). Enacted on May 25, 2018, the GDPR was a set of data protection policies designed to give individuals greater access to and control over their data and force companies to protect personal information better. Companies that did not comply could face heavy fines. The regulations impacted any company marketing goods and services to EU residents.¹³² Some were concerned about exactly how the GDPR would be enforced, with critics suggesting that it would have the unintended consequence of cementing Facebook and Google's leadership in social media by placing a significant and costly regulatory burden on startups and other smaller players. The EU celebrated its first anniversary of GDPR and announced that there had been 59,000 violations in the past year in the EU, creating quite a backlog for the country-based enforcement resources.

In June 2018, California passed a digital privacy law (CCPA), which went into effect in January 2020. Interestingly enough, it began as a ballot initiative, not a legislative effort. While the California law was not as comprehensive as the GDPR, it gave other states a model to work with. It focused on giving consumers the right to know what information about them was being collected by companies and with whom those companies were sharing information, along with the ability to ask them not to sell or share data or delete it altogether.¹³³ The law provided a consumer privacy set of protections to 1 in 8 Americans and provoked others to push for finally passing a National Consumer Privacy Law. However, the U.S. had tried 4 times in 45 years to produce a national consumer privacy law.¹³⁴

Creating a Digital Protection Agency Some called for the expansion of the FTC's powers to regulate Facebook.¹³⁵ At least one writer called for creating a new Digital Protection Agency, similar to the Environmental Protection Agency, with a mandate to "clean up toxic data spills, educate the public, and calibrate and levy fines."¹³⁶ Clearly, existing statutes did not seem to protect users' interests in the modern digital world, and the political will to do more, at least in the U.S., seemed to ebb and flow with scandals.

Looking hard at antitrust/"too big to survive"¹³⁷ Many critics suggested that Facebook should be broken up into multiple companies. The FTC proposed that Facebook spin out Instagram and WhatsApp.¹³⁸ In 2019, the FTC fined Facebook \$5 billion for violating the 2011 consent decree and, together with the DOJ, agreed to begin investigating anti-trust issues in the large tech firms. In the early phases of the 2020 U.S. presidential election, candidate Elizabeth Warren called on the FTC to enforce existing anti-trust laws to "break up Big Tech." Others echoed similar calls¹³⁹ with new legal arguments.

In late July 2018, the office of Senator Mark Warner, vice chairman of the Senate Intelligence Committee, published a white paper with 20 different options to consider for how the federal government might approach regulating "big tech," providing an initial framework for public dialogue in response to the April 2018 hearings.¹⁴⁰

In March 2021, social media CEO's of Facebook, Google and Twitter appeared in yet another set of US Congressional hearings, the fourth in the last year. Mike Doyle (D-IL), chair of these committee hearings railed "that these sites have become havens of hate, harassment and division and we will legislate to stop this."¹⁴¹

Outside of the U.S., there were also other regulatory approaches, which mattered greatly given that the majority of Facebook users were not in North America. For instance, in July 2018, Egypt passed a law to curb social media excesses for anybody with more than 5,000 followers. India had a different approach, turning off internet access over 120 times since 2012 when the government saw growing unrest on social media.¹⁴²

Governments also took other roles when it came to social media, notably "state-sponsored trolling," or the funding/support of activities to target "unpopular" groups or positions. A Bloomberg piece on the subject suggested that this was an increasingly common activity in Turkey, the Middle East, South Asia, and South America.¹⁴³

Investors

Beyond the founders, Facebook was largely owned by big institutional investors, including index funds such as Blackrock, Vanguard, and State Street, which together held 20% of Facebook.¹⁴⁴ In general, these funds were large passive investors and were growing increasingly vocal about ESG issues. It remained unclear how much influence and what posture these funds would have over company governance or the company's performance on ESG issues.

The Cambridge Analytica crisis caused Facebook's market capitalization to drop by nearly \$100 billion, or 18%, over 10 in days in late March 2018. Two months after the Cambridge Analytica scandal came to light, at Facebook's annual shareholder meeting, the proxy vote showed that 81% of the "other independent" shareholders wanted the CEO/Chairman role to be split, up from 53% in 2017. Investors also submitted six shareholder proposals, some of which would have strengthened Facebook's corporate governance. All of the proposals failed because Facebook recommended against them and Zuckerberg controlled a majority vote.¹⁴⁵ To appease shareholders, Facebook did agree to expand the audit committee's purview to cover data privacy, community safety, and cybersecurity.¹⁴⁶

Proxy advisory services, like ISS and Glass Lewis, gave Facebook continued poor marks on governance, compensation, and shareholder rights.¹⁴⁷

In the 2019 proxy voting materials contained 12 resolutions: 4 from the company and 8 from shareholders, which among other things sought to uncouple the Chair/CEO role and move to a 1 share/1 vote structure. All eight shareholder resolutions were defeated, many repeats from the prior year. All 4 company-sponsored resolutions passed.

Facebook remained one of the most valuable companies in the world. Facebook's \$1 billion Instagram acquisition was rumored to be worth nearly \$100 billion in 2018. Analysts had recently pointed to Instagram's stellar performance as the new growth engine (along with WhatsApp) for Facebook, while video monetization efforts and leveraging Facebook's 7 million advertisers would also continue to drive strong results.¹⁴⁸ Looking from the outside, some wondered if this was the modern-day version of the tobacco, processed foods, and coal industries, which had similarly lobbied to support their business model. They had also challenged research findings that suggested harm and talked up their role in innovation and job growth while ultimately deferring any real fundamental changes to their business model. Were Facebook and its social media peers the new "sin stocks"? Given the dual ownership structure of Facebook shares, investors appeared to rely primarily on moral suasion.

Advertisers/App Developers

Facebook used three types of information to drive its advertising model: 1) how users consumed the service on Facebook applications, 2) information shared by advertisers and development partners; and 3) information that business websites sent to Facebook from either online or offline activities. Taken together, along with the company's algorithms, this allowed Facebook to deliver targeted—and therefore relevant—ads to end users.¹⁴⁹ The ability of Facebook to attribute advertising spending impact to user outcomes, beyond what traditional media were able to do, across multiple consumer engagement points (online and offline), was seen as a huge advantage.

One 2018 survey indicated that consumer trust in brands had dropped materially and that consumers were increasingly looking to brands to pressure social media to take more responsibility for user interests, including not having ads next to offensive content, curbing spread of fake news, protecting consumer privacy and personal information, and not selling personal information to third parties.¹⁵⁰ Would brands become more of a force for change to protect their long-term interests?

Some had acted. In March 2017, Procter & Gamble's CMO, Marc Pritchard, a leading spender on digital media, challenged the social media leaders to act more forcefully to improve transparency and implement safeguards for their brands and users.¹⁵¹ In March 2018, he announced he had cut \$200 million in digital ad spending and increased the company's reach.¹⁵² But such actions seemed to be an exception. After the Cambridge Analytica scandal, only seven of Facebook's top 1,000 ad spenders had halted their spending, and two did so for reasons unrelated to Cambridge Analytica.¹⁵³ Like Procter & Gamble, some brands cut back spending as they discovered they were serving ads to "bots" (web-based software applications running repetitive tasks) rather than actual people.

By and large, there appeared to be a fundamental shift away from traditional media platforms, which was not entirely unsurprising given the power of psychographic marketing. According to a 2009 experiment, psychographic behavioral targeting increased click rates by as much as 670%.¹⁵⁴ A second study found that it was twice as effective as traditional marketing.¹⁵⁵ Advertisers and developers continued to spend sizeable sums of money on Facebook advertising. A *Wall Street Journal* piece in March 2021 indicated that advertisers saw a 25% to 60% better return on digital ads than traditional TV ads and were therefore continuing to shift their spending in that direction. This was particularly true in the COVID-19 world, given how much e-commerce had accelerated.¹⁵⁶ What options did they really have given the digital duopoly?

Time to Hit Reset?

When asked during his April 2018 Congressional testimony whether Facebook would "embrace" regulation, Zuckerberg replied: "I think the real question, as the Internet becomes more important in people's lives, is 'what is the right regulation?'"¹⁵⁷ In a separate interview, Sandberg reiterated that both she and Zuckerberg were "open to regulation" and would consider working with lawmakers to craft the right kind of regulation.¹⁵⁸ Facebook's stock gained 5% after the Congressional testimony.¹⁵⁹

In May 2018, user engagement returned to its pre-crisis levels.¹⁶⁰ The #DeleteFacebook campaign appeared to be a nonevent. The impact to advertisers and partners seemed fleeting, and momentum returned as the company's stock hit an all-time high in June 2018. Pressing news crowded out Facebook from the front pages of business dailies.

In late July 2018, Facebook announced that it had missed its projected second-quarter earnings, including projected advertising revenues, due in part to public perception about the company's data leaks and proliferation of fake news.¹⁶¹ User growth had stagnated, perhaps because of the GDPR implementation in Europe. With lower profitability forecast and growth moderating, Facebook's stock

plummeted more than 17%, wiping out nearly \$130 billion in market value, the largest single-day drop ever for a public company.¹⁶² (Exhibit 11 shows late July 2018 headlines.)

The share price recovered from its July 2018 swoon to nearly \$190 a share, back to a \$500 billion market capitalization. The top line grew 27% year over year, EBITDA was 34%, and net cash from operations was \$33 billion for the 12 months ending June 2019. User growth, particularly in the mature U.S. market, continued, and more importantly, engagement continued to expand. In the U.S., Facebook added 1 million new users. Globally, Monthly Average Users (MAUs) and Daily Average Users (DAUs) grew 8%. Engagement also increased across the range of applications, as the median number of ads clicked, comments posted and likes shared continued to rise.¹⁶³ As Facebook moved to integrate Instagram and WhatsApp more tightly, its global user count rose to 2.8 billion, and it increasingly focused on cross-selling its roughly 7 million advertisers onto these rapidly growing applications. Facebook also announced LIBRA¹⁶⁴—a new form of e-currency and a network of global payments partners to empower billions of people. Recently, many higher-profile partners like MasterCard, Visa and PayPal announced intentions to withdraw.¹⁶⁵

Some current and former executives suggested in the press that as Facebook's reach and influence expanded, Sandberg's deliberate management style might have made it more difficult to surface and resolve issues and that change in management style might also be appropriate.¹⁶⁶ The press reported that there had been significant turnover in her immediate team, with five direct reports allegedly leaving the firm in 2018.¹⁶⁷ When asked about her plans at Facebook, Sandberg said in a statement she was committed to the company: "Ten years ago I joined Facebook because I believed in Mark's vision for the good that can come from connecting people. And I still feel that way."¹⁶⁸ Employee turnover picked up at the executive level.¹⁶⁹ In an apparent first, the Town Hall Q&A session with Zuckerberg was recorded and leaked to the public.

Still, some wondered if Facebook's mission—"giving people the power to build community and bring the world closer together"—had run into the reality of how social media networks were really being used. Were Zuckerberg and Sandberg on the path of rebalancing priorities to restore users' trust and protect users' privacy? Had they found a better approach for managing the risks of third parties in their ecosystem? If not, would any other stakeholder group act as a catalyst to drive material changes?

A quote about Former U.S. President Abraham Lincoln related a story after his Gettysburg Address, "Nearly all men can stand adversity, but if you want to test a man's character, give him [or her] power."¹⁷⁰ It was time for Zuckerberg and Sandberg to revisit what they—as well as Facebook's many stakeholders—believed in and cared about. There was a growing sense that Facebook had focused primarily on growth and developing new products, rather than focusing on safety and security,¹⁷¹ or on being an arbiter of free speech. This was Sheryl Sandberg's next responsibility. The call for proposed regulations was growing globally and locally. The next one billion users were coming, as were those interested in influencing and profiting from them. How would Zuckerberg and Sandberg navigate these challenges and opportunities? What would their legacy be?

Exhibit 1 Evolution of Facebook's Homepage, 2004–2015



2004



2005

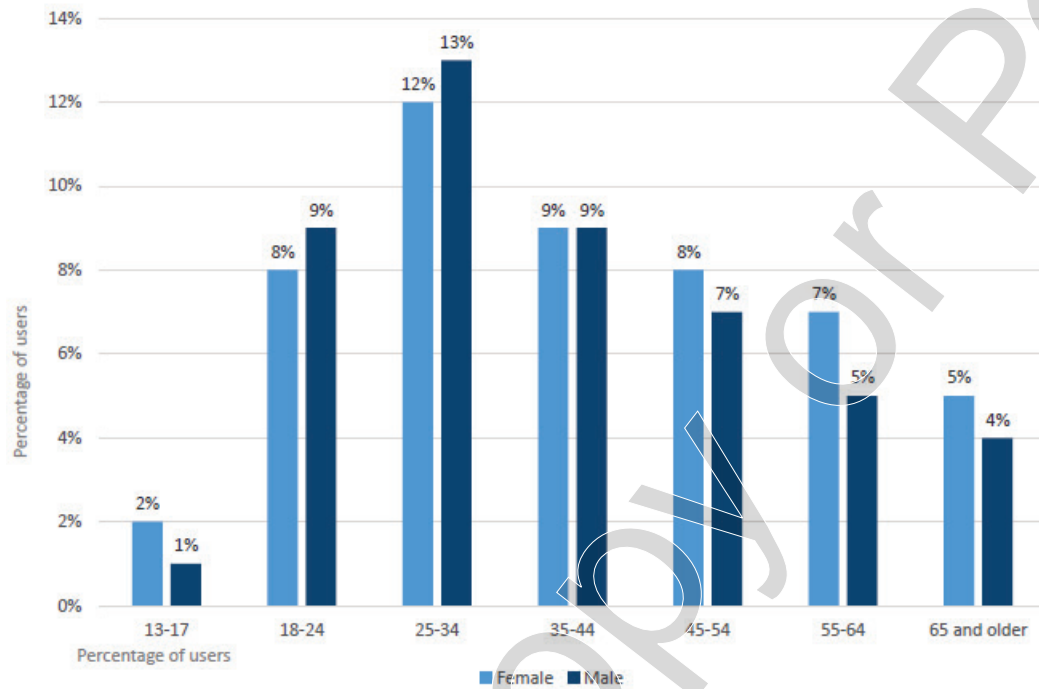


2009



2015

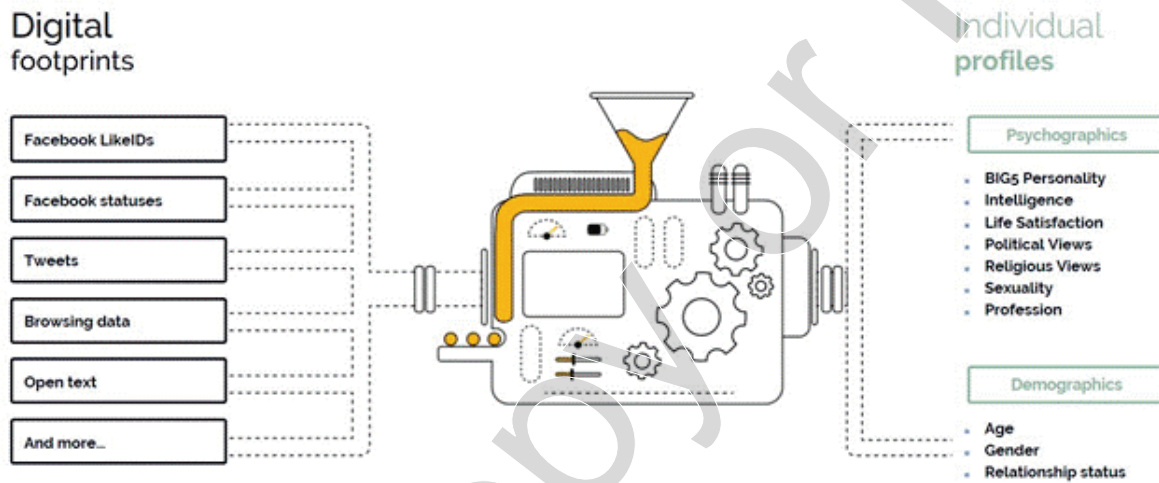
Source: Kevin Gallagher, "Here's a sneak peek at just how big Facebook's trust problem is," *Business Insider*, April 12, 2018, <http://www.businessinsider.com/consumers-dont-trust-facebook-at-all-new-survey-data-2018-4>, accessed June 2018.

Exhibit 2 Distribution of Facebook Users in the United States by Age and Gender, January 2018

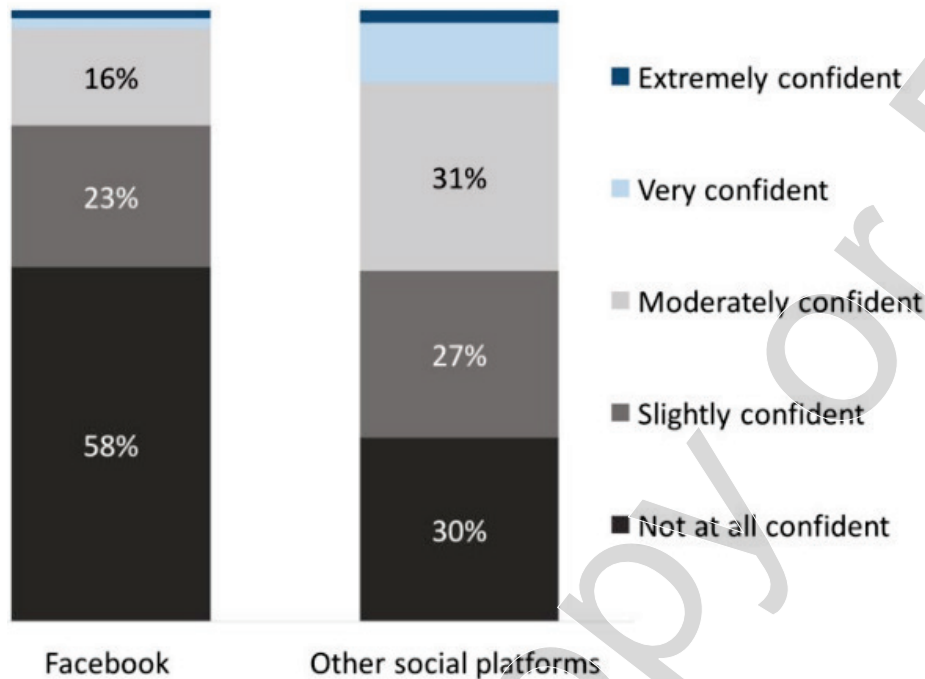
Source: Casewriters, based on “Distribution of Facebook users in the United States for January 2018,” via Statista, accessed June 2018.

Exhibit 3 Trait Prediction Engine from University of Cambridge

Trait Prediction Engine



Source: "Trait Prediction Engine" University of Cambridge, The Psychometrics Centre, https://applymagicsauce.com/about_us.html, accessed July 2018.

Exhibit 4 Business Insider Intelligence's Facebook User Confidence Survey Result, April 2018

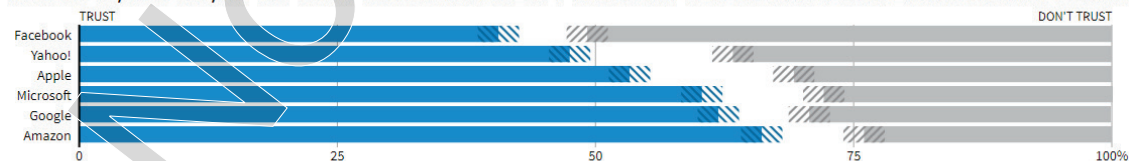
Source: Kevin Gallagher, "Here's a sneak peek at just how big Facebook's trust problem is," *Business Insider*, April 12, 2018, <http://www.businessinsider.com/consumers-dont-trust-facebook-at-all-new-survey-data-2018-4>, accessed June 2018.

Exhibit 5 Reuters Poll on Facebook User Confidence, March 21–23 2018

Who trusts Facebook?

When it comes to protecting their information, more people trust Apple, Google, Amazon, Microsoft and Yahoo! than those who trust social media giant Facebook.

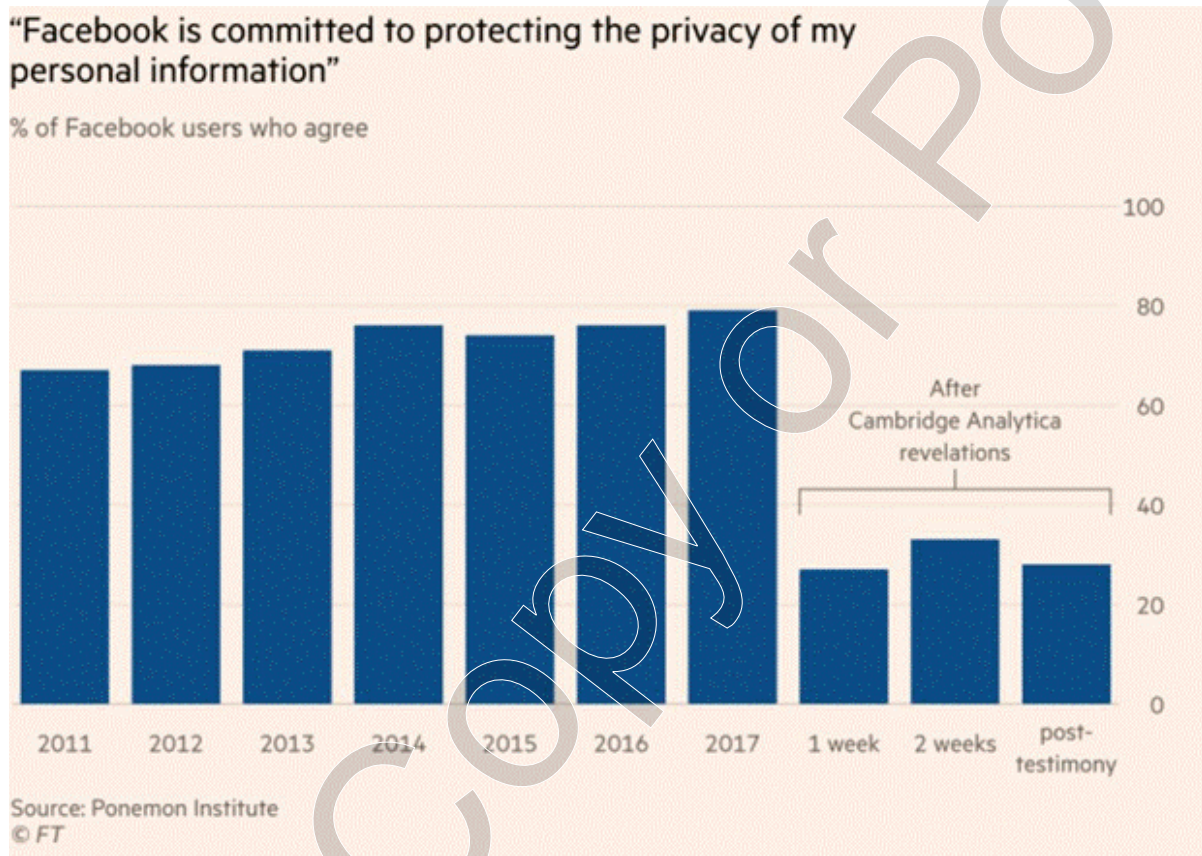
HOW MUCH, IF AT ALL, DO YOU TRUST THESE COMPANIES TO OBEY LAWS THAT PROTECT YOUR PERSONAL INFORMATION?



Note: The poll was conducted between March 21-23, and has a sample size of 2,237 respondents. The credibility interval is 2 percentage points.

Source: Reuters/Ipsos public opinion poll
By Travis Hartman | REUTERS GRAPHICS

Source: Travis Hartman, "Who trusts Facebook?" Reuters, March 23, 2018, <http://fingfx.thomsonreuters.com/gfx/rngs/USA-FACEBOOK-POLL/0100619Q2Q6/index.html>, accessed June 2018.

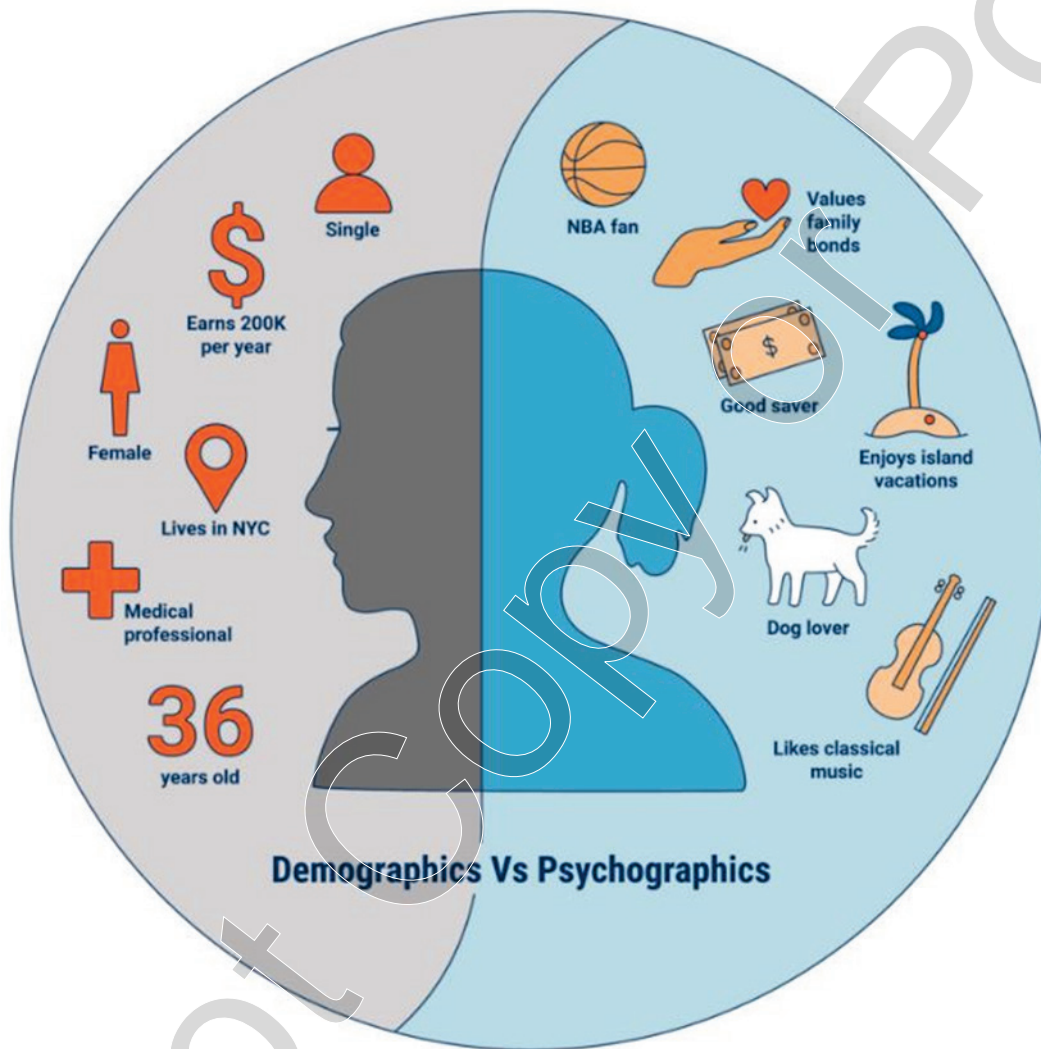
Exhibit 6 Users Who Believe Facebook is Committed to User Privacy Protection (%), 2011–2018

Source: Hannah Kuchler, “Zuckerberg failed to fix Facebook users’ privacy concerns,” *Financial Times*, April 17, 2018 <https://www.ft.com/content/171cc986-41b5-11e8-803a-295c97e6fd0b>, accessed July 2018.

Exhibit 7 Facebook's Six-Point Plan to Crack Down on Platform Abuse, March 2018

1. **Review our platform.** We will investigate all apps that had access to large amounts of information before we changed our platform in 2014 to reduce data access, and we will conduct a full audit of any app with suspicious activity. If we find developers that misused personally identifiable information, we will ban them from our platform.
2. **Tell people about data misuse.** We will tell people affected by apps that have misused their data. This includes building a way for people to know if their data might have been accessed via "thisisyourdigitallife." Moving forward, if we remove an app for misusing data, we will tell everyone who used it.
3. **Turn off access for unused apps.** If someone hasn't used an app within the last three months, we will turn off the app's access to their information.
4. **Restrict Facebook Login data.** We are changing Login, so that in the next version, we will reduce the data that an app can request without app review to include only name, profile photo and email address. Requesting any other data will require our approval.
5. **Encourage people to manage the apps they use.** We already show people what apps their accounts are connected to and control what data they've permitted those apps to use. Going forward, we're going to make these choices more prominent and easier to manage.
6. **Reward people who find vulnerabilities.** In the coming weeks we will expand Facebook's bug bounty program so that people can also report to us if they find misuses of data by app developers.

Source: "Cracking down on platform abuse," Facebook newsroom, March 21, 2018, <https://newsroom.fb.com/news/2018/03/cracking-down-on-platform-abuse/>, accessed June 2018.

Exhibit 8 Scope of Demographic vs. Psychographic Profiles, 2018

Source: "What Is Psychographics? Understanding The 'Dark Arts' Of Marketing That Brought Down Cambridge Analytica." Corporate Innovation Trends, Insights, www.cbinsights.com/research/what-is-psychographics/, accessed June 2018.

Exhibit 9 Informational Capture, Facebook API v1

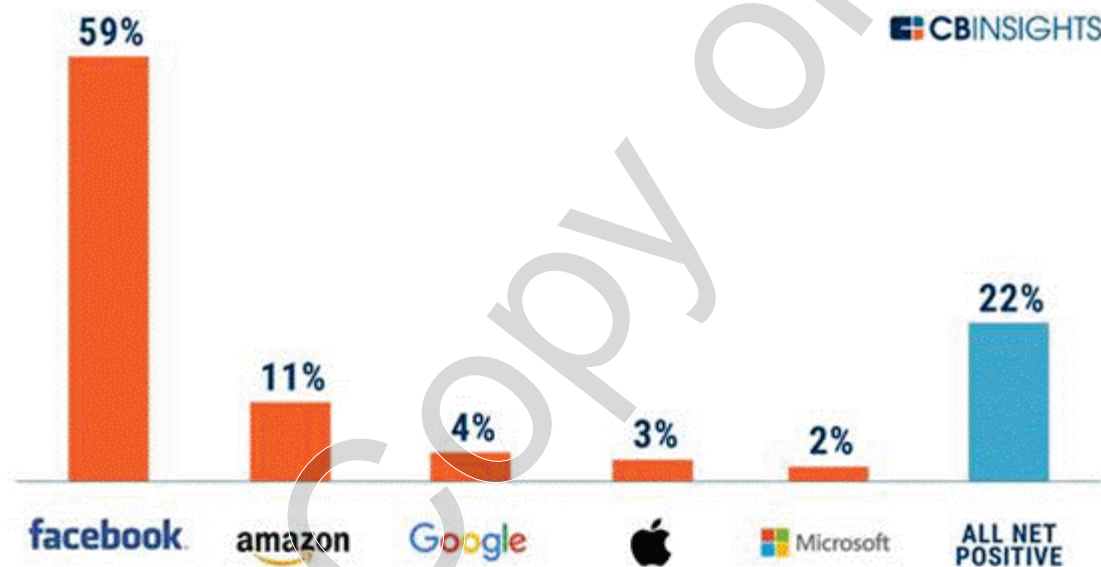
Basic Info (default)	Extended Profile Properties (xpP)		Extended Permissions (xP)
	User Data	Friends Data	
uid	user_about_me	friends_about_me	ads_management
name	user_actions.books	friends_actions.books	ads_read
first_name	user_actions.music	friends_actions.music	create_event
last_name	user_actions.news	friends_actions.news	create_note
link	user_actions.video	friends_actions.video	email
username	user_activities	friends_activities	export_stream
gender	user_birthday	friends_birthday	manage_friendlists
locale	user_checkins	friends_checkins	manage_notifications
age_range	user_education_history	friends_education_history	manage_pages
	user_events	friends_events	photo_upload
	user_friends	friends_games_activity	publish_actions
	user_games_activity	friends_groups	publish_checkins
	user_groups	friends_hometown	publish_stream
	user_hometown	friends_interests	read_friendlists
	user_interests	friends_likes	read_insights
	user_likes	friends_location	read_mailbox
	user_location	friends_notes	read_page_mailboxes
	user_notes	friends_online_presence	read_requests
	user_online_presence	friends_photo_video_tags	read_stream
	user_photo_video_tags	friends_photos	rsvp_event
	user_photos	friends_questions	share_item
	user_questions	friends_relationship_details	sms
	user_relationship_details	friends_relationships	status_update
	user_relationships	friends_religion_politics	video_upload
	user_religion_politics	friends_status	xmpp_login
	user_status	friends_subscriptions	
	user_videos	friends_website	
	user_website	friends_work_history	
	user_work_history		

Source: Symeonidis, Iraklis, et al., "Collateral Damage of Facebook Apps: an Enhanced Privacy Scoring Model," KU Leuven, IMinds, May 4, 2015, eprint.iacr.org/2015/456.pdf, accessed August 2018.

Exhibit 10 Poll on Impact on Society of Major Technology Firms, 2018**CB INSIGHTS POLL**

In ten years, which company will we say was a **net negative** for society?

n=4217



Due to rounding, percentages add up to greater than 100%.

Source: "In Ten Years, Which Company Will We Say Was a Net Negative for Society," CB Insights, January 3, 2018, <https://www.cbinsights.com/research/facebook-fares-very-poorly-in-this-survey>, accessed July 2018.

Exhibit 11 Representative Headlines from July 2018 from Market “Reset” on Facebook

Investors Unlike Facebook

The tech giant faces new costs to reassure users and regulators.

By *The Editorial Board*

July 26, 2018 7:00 p.m. ET

Well, no stock-market love affair lasts forever, as Facebook has painfully discovered. An earnings release Wednesday evening perceived as mediocre prompted a fast and brutal selloff Thursday morning in one of the pillars of the long tech-stock rally. Facebook lost about \$119 billion in shareholder value, or nearly 19%—the largest single-day loss for a U.S. listed company.

Facebook’s Financial Facade Develops Cracks

Reality may finally be intruding on the company’s ability to mint money.

By *Shira Ovide*

July 25, 2018, 5:59 PM EDT

Not so impervious. Photographer: Joel Sagel/AFP/Getty Images

Facebook Inc. hasn’t been able to do anything right – except when it comes to making money, where it could do nothing wrong.

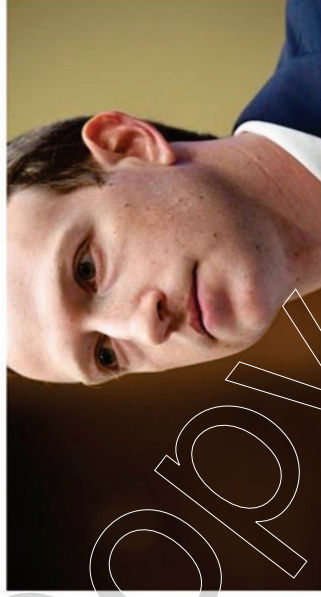
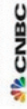
That changed on Wednesday, when the company posted disappointing growth in revenue, profits and the number of visitors to its digital hangouts. Results are still stellar by the standards of most companies, but investors in fast-growing technology companies react badly when their high hopes aren’t met, as Netflix recently found

Here’s what Facebook said that spooked investors and wiped \$130 billion off its market value

- Shares fell as much as 24 percent, slumping below \$170 in extended trading.
- The company’s top executives warned about decelerating revenue, tightening margins and the ongoing effects of privacy policy changes.

Sara Salinas | @saracsalinas

Published 5:44 PM ET Wed, 25 July 2018 | Updated 12:31 PM ET Thu, 26 July 2018



Matt McClain | The Washington Post/Getty Images

Facebook CEO, Mark Zuckerberg

Facebook shareholders wiped more than \$130 billion off the company’s market value Wednesday after the company’s second-quarter earnings call.

Shares fell as much as 24 percent, slumping below \$170 in extended trading. The call and subsequent plunge followed a revenue miss for the company and a report of lower daily active user counts in Europe.

Source: Shira Ovide “Facebook’s Financial Facade Develops Cracks,” *Bloomberg*, July 25, 2018, <https://www.bloomberg.com/view/articles/2018-07-25/facebook-fb-earnings-financial-facade-develops-serious-cracks>; “Investors unlike Facebook,” *The Wall Street Journal*, July 26, 2018, https://www.wsj.com/articles/investors-unlike-facebook-1532646054?mod=hp_opin_pos1; and Sara Salinas “Here’s what Facebook said that spooked investors and wiped \$130 billion off its market value,” *CNBC*, July 25, 2018, <https://www.cnbc.com/2018/07/25/facebook-warns-investors-of-weakening-revenue-in-second-half-of-2018.html>; all accessed July 2018.

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