Internet

Bradley Reynolds
Investment Analyst

The pandemic has accelerated and broadened the positive disruption that technology brings, and we believe this leaves the outlook for the technology sector in a very healthy position. The cornerstone of this change is the internet, a general purpose technology, like steel, around which everything is reinvented. While 19th Century observers would have noted the use of steel in bridges and railroads and how it made skyscrapers possible, the role steel played enabling the motor car, maritime trade and modern warfare was not yet apparent. Today, more than 50% of all products in the world come from steel and steel fabrication processes.

As witnesses to our own technological revolution, it is impossible to gauge how much disruption will ultimately be wrought by the internet. However, COVID-19 demonstrated that we are still scratching the surface while new relationships forged during the pandemic are likely to prove durable. Steel-framed skyscrapers helped make the modern cities of today, just as the internet may be about to reinvent them. As tech investors, it should be a blast.

Regulatory intensity

Data protection: It is expected that in the US, federal lawmakers will act to prevent the emergence of a patchwork of state-level consumer privacy regulation following the introduction of the California Consumer Privacy Act (CCPA) in 2020. President Biden naming Bruce Reed as Deputy Chief of Staff was noteworthy as he helped craft the landmark CCPA in 2018.

Antitrust: After the official Department of Justice (DoJ) and Federal Trade Commission (FTC) investigations were launched in 2019, the antitrust lawsuits were filed in 2020. The DoJ filed a lawsuit against Google in October followed by two separate state coalitions with lawsuits in December. The FTC also filed its lawsuit against Facebook in December along with a coalition of 46 state attorney generals.

The exact timings of the next steps are uncertain, with most legal experts suggesting a 2-3-year timeline before a final decision. There have been press reports that the DoJ lawsuit against Google is unlikely to go to trial until 2023 with 12 September 2023 set as a tentative start date. I continue to expect the most likely outcomes to be behavioural remedies on business practices and fines where applicable. The worst-case scenario of a breakup cannot be ruled out, but most legal experts continue to place a small probability of this occurring due to the difficulty of enforcement and the higher burden of proof required. **A series of long and drawn-out legal cases remains the base case scenario**. We have witnessed this in the past with Microsoft and, more recently, Alphabet's series of investigations by the European Commission.

Lawsuits filed in 2020

Event	Details	UBS View
US DOJ lawsuit vs. Google	On Oct 20, the US DOJ filed an antitrust lawsuit against Google, alleging the company maintained/abused monopoly power in general search services and search advertising.	▪ This focuses primarily on Google's exclusivity agreements with OEMs & other search access points ▪ We view behavioral remedies (e.g. limiting Google's ability to engage in such exclusivity agreements) as a more likely outcomes than structural remedies (e.g. forced divestiture of business unit(s)) . ▪ Specific to search distribution, since restrictions on exclusivity agreements may not drive large changes in consumer preference or behavior, such restrictions could potentially be a positive to future EPS – based on our scenario analysis in our recent regulatory deep dive (link), restricting exclusivity agreements with Apple/OEMs could drive a potential +29% increase to Google's FY2022 EPS .
Texas State AG et al. vs. Google	On Dec 16, a 10-state coalition led by the Texas State AG filed an antitrust lawsuit against Google alleging the company engaged in "anticompetitive conduct, exclusionary practices and deceptive misrepresentations" in connection with its online display advertising business	▪ This lawsuit is focused primarily on Google's market position within the web display advertising industry and alleged anticompetitive actions taken by the company to maintain/grow its position (including allegations of collusion with Facebook for favorable ad network access in exchange for lower competitive intensity) ▪ Google noted that they operate within a crowded & competitive digital ad tech industry (with Google's ad tech fees lower than the industry average)
Colorado State AG et al. vs. Google	On Dec 17, a bipartisan coalition of 38 state AGs filed an antitrust lawsuit alleging that Google engaged in various anticompetitive contracts and practices to maintain a monopoly over the online search market.	▪ This lawsuit is overall broader in scope than Texas AG et al., alleging that Google leverages superior resources (e.g. exclusivity agreements with OEMs), vertical integration w/ search & product design (e.g. "zero-click" search results) to direct users/advertisers toward Google-owned properties over 3Ps ▪ Google responded by arguing that Search is designed to provide consumers with the most relevant results and that competition alternatives are "one click away" ▪ We expect the DOJ lawsuit to take priority over the two state AG lawsuits and see a possibility that one or both state lawsuits are tried jointly alongside the DOJ lawsuit.
US FTC lawsuit vs. Facebook	On Dec 9, the US FTC along with a coalition of 46 state AGs, filed a lawsuit against FB, alleging the company illegally maintained monopoly power through a years-long course of anticompetitive practice (both through M&A and restrictions on 3Ps).	▪ The FTC lawsuit focuses specifically on two areas: 1) past M&A (incl. Instagram and WhatsApp) and 2) alleged restrictions placed on 3P software developers ▪ We believe, because IG and WhatsApp were previously approved by the FTC and as their businesses are already well integrated, it would be unusual and difficult to force a sale/unwind, although this likely raises the bar for future M&A (incl. Giphy announced May '20). ▪ A federal court lawsuit (as opposed to an FTC admin action) will likely lead to contested and prolonged litigation based on prior legal expert conversations.

Source: UBS

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In November 2020, the European Commission informed Amazon of its preliminary review that the company had breached EU antitrust rules. It has launched two antitrust investigations, with one focused on Amazon using business data from independent sellers on its marketplace (3P) to the benefit of its own retail business (1P). The other was focused on the potential preferential treatment of Amazon's own retail offers and those of marketplace sellers that use Amazon's logistics and delivery services. There have also been press reports of Amazon being investigated in the US by the FTC over similar unfair competition practices. Amazon's scale and influence now make it almost inevitable that it will increasingly come under the regulatory spotlight going forward. At year end, the first draft of The EU Digital Services Act and Digital Markets Act was published with the aim of modernising the legal framework for digital services. Each aspect of the Act is likely to be subject to significant negotiation and could take several years before being passed into law (GDPR, for example, took four years from its first draft publication).

Taxation: Continued slow progress has been made with the OECD proposals to revolutionise corporate taxation of multinational companies. The new framework, several years in the making, has evolved to the stage where blueprints have been produced. Implementation now requires political agreement to be reached and this experienced a setback in June when the US suspended talks with European countries. The OECD's blueprints consist of two key pillars: (1) a shift to taxation of profits apportioned to the countries in which their customers are located rather than based on the physical location of a company; and (2) an effective minimum corporate tax rate that every multinational would have to pay regardless of where they are headquartered. The first pillar would not raise much additional revenue, but instead redistribute c$100bn of corporate tax around the world. The second pillar would raise an estimated $100bn according to the OECD.

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Labour laws: After the California Assembly Bill 5 (AB5) legislation went into effect on 1 January 2020, the Protect App-Based Drivers and Services Act (Prop 22) ballot initiative passed with 59% of the vote. This exempted app-based transportation (such as Uber and Lyft) and delivery companies from AB5 legislation by classifying their drivers as independent contractors rather than employees. Although Prop 22 would exempt workers from full employee benefits under AB5, they would be entitled to receive new guarantees on minimum earnings alongside benefits such as occupational accident insurance and health subsidies. A hybrid approach to gig economy workers is proliferating across many countries as employment law cases are being ruled upon and the European Commission is undertaking a review on the regulation of gig economy platforms. Uber has shared a white paper with the EU and proposes California-style gig worker reforms in Europe. The continued healthy growth of the on-demand economy requires a balance to be found between the flexibility of contract work and the basic rights of all workers to receive minimum wage protection, health and insurance benefits. The recent UK Supreme Court ruling classified Uber drivers as workers not employees and therefore entitled to similar protections and benefits as drivers will receive under Prop 22 in California.

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Polar Capital LLP 16 Palace Street, London, SW1E 5JD
T +44 (0)20 7227 2721 **E** investor-relations@polarcapitalfunds.com

Outlook for 2021

Accelerated infrastructure spend

We believe the pandemic has further accelerated the infrastructure spend behind digital transformation leading to an improved experience for digital consumers. This includes fulfilment/delivery infrastructure, cloud adoption and 5G rollout.

Generation Z

This is the first generation that primarily uses the internet for entertainment as opposed to a tool to access information. We all received a taste of what it is like to live in a Gen Z virtual world in 2020 as a large percentage of the population was forced to temporarily adopt Gen Z digital habits. They are currently forecast, by BofA, to represent 10% of global income but expected to surpass millennials by 2030 and represent 27% of total global income. They collectively provide a growing positive tailwind to the internet sector.

New legislation in the US

One of the biggest risks to internet (and tech) sentiment in 2021 comes from the higher probability for new legislation following the Democrat clean sweep in November's US presidential election. Strengthening the Clayton Act, Sherman Act or reforming Section 230 of the Communication Decency Act are prime candidates.

New legislation in China

The new Anti-Monopoly Law of China was swiftly released after the draft rule was first published in November 2020. These guidelines specify unfair competition behaviours such as exclusive partnerships and price discrimination based on user data. Unlike in the US or Europe there will be no drawn-out negotiations or court cases before swift implementation.

E-COMMERCE

The digital economy received a dramatic boost in 2020 as forced stay-at-home behaviour drove consumers online and the accelerated adoption of e-commerce was the most important trend seen across the internet sector. For the full year 2020, the US Department of Commerce measured e-commerce growth of 32% versus 2019, accounting for 14% of total sales. Q1 was in line with a stable historical e-commerce growth rate of 15% y/y, though in Q2 we saw a surge to a pandemic peak of 44% growth y/y. This moderated to 37% in Q3 and 32% in Q4 but remains at twice the pre-pandemic growth rate.

This step-change in online consumption has forced retailers to change their strategy to meet the new customer needs and, in some cases, sell direct to consumer (D2C) for the first time. **This ushered in the post-Ketchup digital era** as Heinz made the decision to directly sell ketchup online for the first time in 151 years.

However, not all e-commerce newcomers had the infrastructure in place to deliver world-class customer service so the stickiness of new behaviours will ultimately depend upon the satisfaction levels of new experiences. Traditional bricks and mortar retailers have seen their previous challenges amplified by the pandemic. Retail store closure in the US reached a record level in H1 2020 and 30 bankruptcies was the largest number since the global financial crisis peak of 2010. These developments only provide further support for the secular trend of retail sales shifting online.

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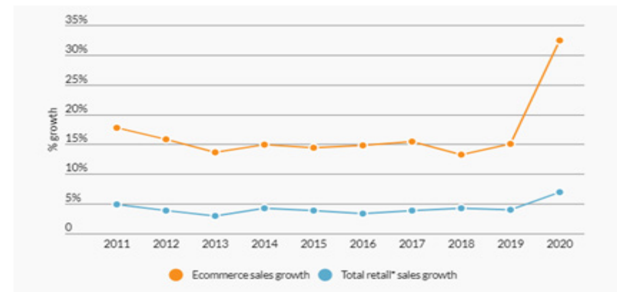
The e-commerce shift has been no more pronounced than in the **grocery sector**. In the UK, the Office for National Statistics forecast that grocery penetration doubled from 5% in 2019 to over 10% in 2020. eMarketer forecasts an additional 39 million US online grocery shoppers were created in 2020 to reach a total of 131 million as this trend proliferated across the globe.

In our opinion, the pandemic has strengthened consumers' desire for convenience and immediacy, which is a behaviour unlikely to be reversed anytime soon and could even accelerate the annual rate of adoption going forward. The traditional e-commerce offering has been a two-day delivery window pioneered by Amazon, which has shortened to become a next day offering. The on-demand market takes this further with a sub-one-hour delivery window (down to sub-five minutes for ridesharing) and I believe will increasingly appeal to consumers who have been reprogrammed during the pandemic. Exposure to this on-demand theme was increased during the year through food delivery companies. I believe the potential for permanent change in consumer behaviour is underestimated, while the trend of increasingly working-from-home provides the opportunity for increased frequency of usage.



Source: Digital Commerce/US Dept of Commerce

Social media

Social media applications had a more mixed 2020 as the benefit to users were offset by advertising weakness in Q2 and Q3. During the pandemic, US adults spent one hour more per day on digital activities across all devices than they did in 2019, according to eMarketer. The increase to 7 hours, 50 minutes per day is the biggest increase since 2012. Social network time represented one hour, five minutes of this and is nine more minutes per day compared to 2019. The five major social networks all enjoyed additional time spent, with TikTok capturing the biggest proportion of it.

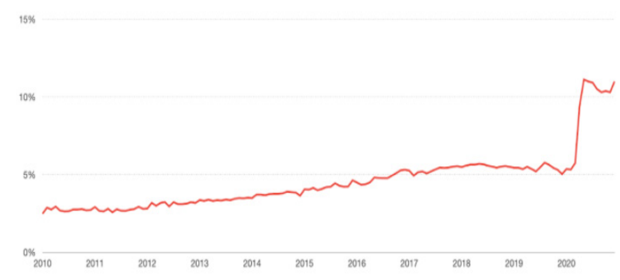
US eCommerce growth y/y, by quarter

Source: Digital Commerce/US Dept of Commerce

In 2020, **the blurring of the boundaries between social media and e-commerce continued** following the changes in 2019 to make social media sites more shoppable. Facebook Shops pages, Instagram Checkout, Shop Now tabs on Google and Shop the Look on Pinterest are more recent examples. Social media sites aim to monetise the increased purchasing influence their platforms have established.

2020 witnessed a growing trend towards **'entertainmerce'** with a fusion of entertainment and commerce in the form of live shopping. Livestreaming e-commerce has been embraced by young shoppers as a return to the social side of shopping, without having to leave home during the pandemic. The livestream model in China is based around influencers – known as key opinion leaders (KOLs) – and has enabled shopping presenters to become social media superstars. Livestreaming e-commerce is nascent in the US and Europe but incredibly sophisticated in China. In 2019, livestreaming generated $63bn in revenues, with $28bn generated on Alibaba's Taobao Live platform alone. It is projected to reach $138bn in 2020, as forecast by Everbright. Some of China's biggest companies have adopted livestreaming using KOLs and sometimes even their CEOs as hosts. In August 2020, the founder and CEO of Xiaomi hosted a two-hour livestream pitching products such as the Mi TV and the smartphone Mi 10 Ultra. The livestream reached 50 million people and sold $30m worth of Xiaomi products. During 2020, a raft of live shopping experiences launched on Western social media sites to capture this phenomenon. These include Amazon Live, Google's Shoploop and live shopping on both Facebook and Instagram. At present, they more closely resemble a QVC-style platform and remain a far cry from the slick 'entertainmerce' platforms seen in China.

UK Online Grocery % total grocery



Source: ONS - Jan 2021

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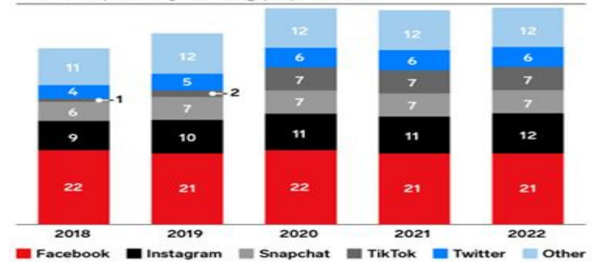
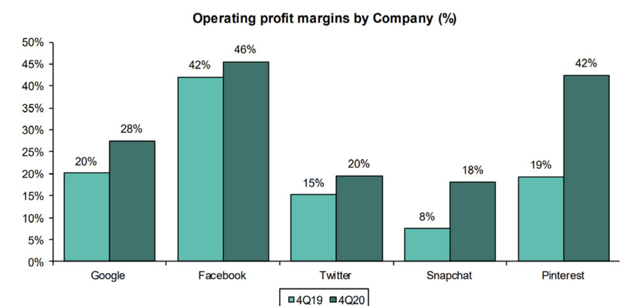
While the pandemic effectively paused advertising spend as ad revenues decelerated or declined year-on-year, troughing in Q2, they quickly rebounded. By Q4, growth rates were back to pre-pandemic levels and in many instances they were exceeded. With cost control initiatives carefully managed during the pandemic (some of which, like travel, were forced) a trend of significant operational margin expansion was seen. For Facebook, this was the first for several years and I expect some of the cost discipline to persist into 2021.



Source: eMarketer - Jan 2021

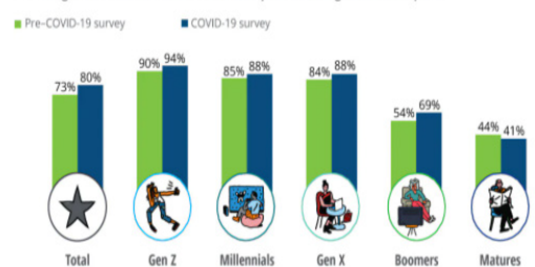
Media content

On-demand media was a clear pandemic beneficiary and experienced a jump in both new users and usage. The digital media trends survey of 2020 by Deloitte found 80% of US consumers say their households now subscribe to at least one paid streaming video service, up from 73% in the pre-COVID-19 survey. Subscribers now have an average of four paid streaming video subscriptions, and notably it was found that during the pandemic, 38% of consumers tried a new digital activity or subscription for the first time. In a zeitgeist moment, MrBeast, a YouTube blogger known for attention-grabbing stunts, averaged more views per week (98 million) than the most recent Superbowl (96 million). Interestingly, he is funded by Honey, a company PayPal acquired in 2019, and won the best creator award at the 2020 Streamy Awards, established to honour the best in online video.



Source: Bernstein

Global OTT (over the top) TV subscriptions rose from 849 million in 2019 to reach 1.1 billion last year, overtaking global pay TV numbers for the first time. Contributing to this growth was Netflix which added 36 million subscribers over 2020 to cross the 200 million total subscriber milestone. It was also driven by the remarkable growth of Disney+ since its launch in November 2019 to reach 95 million subscribers by the end of 2020. The opening battle of the streaming wars has concluded as the remaining high-profile services were launched over 2020 by HBO Max (AT&T) and Peacock (NBCUniversal). The feared impact of new competitors on the growth of Netflix has proven to be unfounded, even with the meteoric rise of Disney+.



Source: Deloitte Insights

While pandemic-driven lockdowns may have benefited certain forms of media, the traditional pay TV industry is not one of them. **The pandemic created a perfect storm to accelerate cord-cutting**: consumers tightened their wallets, live sporting events were cancelled or postponed in H1 2020, and promotional pricing was cut back by providers to sustain profitability. While live sports returned to the US in H2 2020, former customers are not expected to return to their pay TV plans. **The bundle is unravelling** as linear TV providers lost the most subscribers ever with a 7.5% y/y fall to 77.6 million US households remaining. eMarketer forecast that by 2024 more than one-third of US households will have cut the pay TV cord.

The pandemic may also have confined the 90-day theatrical window to history as the major film studios have been forced to consider premium video on-demand (PVOD) and window changes while cinemas have been shut. AT&T has decided to take its entire 17 film 2021 movie release slate, including Dune and The Matrix 4, and release them simultaneously in cinemas and on HBO Max. AT&T has indicated that this decision is being driven by COVID-19 and is unique to 2021 but it could prove permanent if adopted by consumers.

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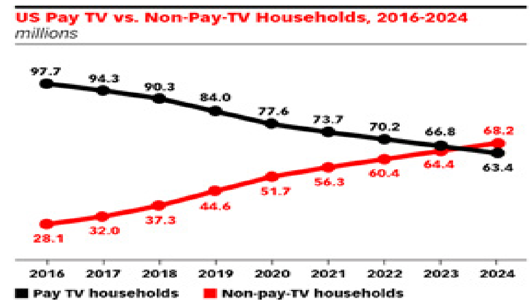
Monetisation

Advertising

It could have been so much worse, according to an appraisal of the global advertising markets in 2020 by the world's largest media buyer, GroupM. Global advertising is forecast to only fall 5.8% in 2020 (-4.1% including US political advertising spend). This was substantially better than GroupM's mid-year forecast of an 11.9% decline in 2020. The global advertising markets experienced what can be categorised as a setback as opposed to an economic catastrophe and contrasts with 2009 when global ad markets declined 10.9%.

Global digital advertising proved far more resilient than expected in a normal recessionary environment and increased 8.2% during 2020. However, this ended a period of six consecutive years of growth >20%. Growth in 2021 is forecast to be 15.4% for digital advertising, but is likely to prove conservative considering the permanence of the e-commerce shift and its resulting need for greater spending on digital advertising.

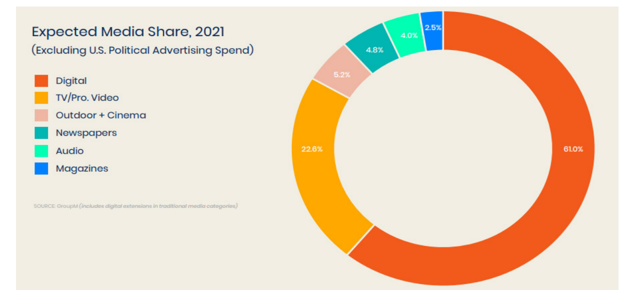


Source: eMarketer

The pandemic provided a tailwind to the number of active advertisers across the various advertising platforms. Facebook added over two million paying advertisers in 2020 to reach 10 million. Despite this impressive acceleration, it remains insignificant in comparison to the 200 million+ businesses active on Facebook or the wider addressable market of 800 million small businesses globally. Snap and Pinterest both witnessed substantial increases in active advertisers on their platforms, a strong indicator of future success.

Ad-targeting headwinds continued to compound in 2020 as expected. Apple have been involved in a cat and mouse game with the adtech industry since they launched tracking prevention (ITP) in 2017. Apple have identified workarounds that companies have found to continue tracking and have responded in future updates to close these loopholes. In September 2020, Apple released iOS14 which introduced a new AppTracking Transparency (ATT) framework. In a surprising move, Apple decided to delay ATT until Spring 2021 (most likely March) after feedback from the developer community. Another component of the iOS14 update that included extending ITP to all browsers on iOS and iPadOS (including the popular Chrome browser) was rolled out without delay. **When live, Apple's ATT framework will require apps to receive a user's permission for any user tracking, and importantly permission to use the ID for advertisers (IDFA)**. The IDFA acted like a cookie in the app environment, was tied to a device, and has been a key tool for developers and marketers to track activity for advertising purposes. Despite the fears over IDFA (and many of its predecessors) no single targeting development in isolation is likely to cause significant disruption, but instead each new development compounds the headwinds and amounts to a loss of signal and accuracy on attribution, measurement and campaign performance. A lower RoI on ad spend, leading to lower ad prices, will be the principle impact, all else being equal. The major digital advertising businesses suggested this is manageable, with IDFA a small headwind to growth.

GroupM Market Share forecast by Media 2021



Source: GroupM - Dec 2020

The ad-targeting headwind story does not end with IDFA as Google plans to phase out third-party cookies from the Chrome browser by 2022. We are beginning to see Apple and Google's privacy-focused alternatives with the Apple SKAdNetwork (SKAN) providing a new approach to attribution that removes user-level data and ultimately provides less sophisticated attribution that is not available in real time. Google is experimenting with cohort-based solutions based on third-party cookies.

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Google is also testing a Federated Learning of Cohorts (FLoC) technology that analyses Chrome browsing behaviour and places users into a group with similar browsing habits. Google believes marketers can expect 95% of the conversions per dollar spent versus cookie-based advertising. Both Apple and Google's alternative solutions appear to be a work in progress, but they are likely to improve the loss of signal being experienced by advertisers.

Final thoughts

This time last year, I was of the opinion that the explosive growth rates may have passed but the structural shifts could continue at a consistent pace for the key pillars of the internet sector, e-commerce, online advertising and online media. The pandemic has shown how incredibly quickly this can change and I can no longer assume the consistent pace of change of previous years. If the consumer has indeed been reprogrammed, the pace of change over the medium term can once again accelerate, confounding all current predictions. I will be actively watching developments as economies re-open to gauge behaviour changes. The pandemic has been a game changer in terms of the mass digital education of the public. It has been a cross-generational and multi-category phenomenon and forced entire consumer journeys, from research to purchase to customer experience, to become digitalised. With increased regulatory scrutiny I expect Big Tech to attempt to keep a low profile while continuing to make proactive business practice adjustments just like Apple's app store take rate reduction and Google's sunsetting of third-party cookies. The Facebook PR disaster with the Australia news publishers, I hope, will be a rare exception to the rule.

Brad Reynolds

18 June 2021

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Client Services

E investor-relations@polarcapital.co.uk
T +44 (0) 20 7227 2721
F +44 (0) 20 7227 2799

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