

**APR
2019**



ELECTION 2020:
The war on fake news,
an opportunity for
decentralized media.

Executive summary

In this report we focus on the investment opportunity in decentralized media and social media as an alternative to traditional platforms, and how they could benefit in the next year from the continuing anti-Facebook sentiment in the wake of the Christchurch shootings and the war on 'fake news' which will again reach fever pitch in the US 2020 presidential election.

Facebook is also preparing for the US election with a PR campaign jumping on the [blockchain](#) and "decentralization" trend, giving an illusion of Mark Zuckerberg ceding some power. According to the [Edelman Trust Barometer](#), trust in social media is in crisis at just 43% (traditional media is 66%).

All the decentralized media (DeMe) digital assets covered here have seen strong rebounds in price in the month to April 1 (BAT is up over 70% and STEEM 20%) which in part can be attributed to the broader altcoin recovery. However, for investors there is also a reasonable strategy in tailcoating the fake news, big tech and social media backlash that several presidential candidates are also using as policy springboards. The World Economic Forum (WEF) has even declared fake news as one of the main threats to society, on par with climate change.

New blockchain models of user-curated news and information not driven by algorithms but by humans with skin-in-the-game could prevent the spread of viral misinformation through:

- staking assets on the quality of information or data shared
- staking user reputation on quality of info or data shared
- self-sovereign user identity logins before posting
- putting a cost on the spread of false viral content and bots
- the permanence of content and reputation recorded on the blockchain

The ad-based model of traditional media and social media puts the interests of the platforms at odds with their users (becoming both the customer and the product) nor is it sustainable as it inhibits the creation of quality content that could break the cycle. Although the world of cryptocurrencies is often portrayed as the 'Wild West', it is crypto's underlying blockchain technology that has the potential to make the internet's citizens responsible for their behavior and revive quality content.

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Introduction: Changes in trends and sentiment

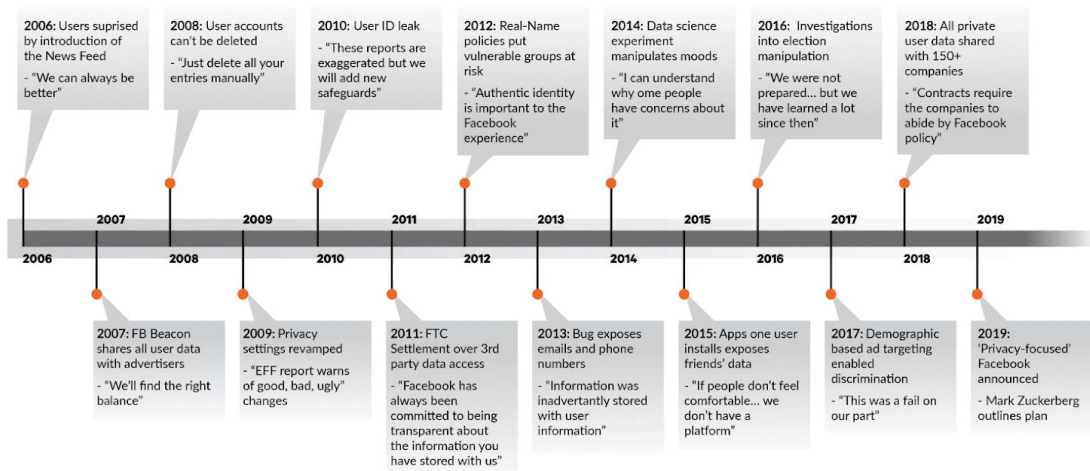
The degradation of information and news is an important macro trend and also a macro investment opportunity in the ‘hyper-information age’. With distrust in the motives of media companies and the veracity of their content at all-time highs, the run-up to the 2020 US election presents an opportunity for media and social media crypto assets to gain in price and usage as an autonomous information source to counter ‘fake news’.

Fake news, party propaganda and political interference has again come into focus and the public has the choice of getting information from traditional media outlets owned by media moguls or from social media outlets owned by big tech oligarchies. In the US, 44% of adults get their news from Facebook.

During the 2016 election, at last count, fake news stories reached 126m Facebook users and Twitter had over 50,000 false accounts. In the current Web 2.0 media model, ad revenue is driven by quantity of clicks and ‘engagement’ on content, with few incentives to focus on the quality of the content. Research has demonstrated that fake news diffuses faster and wider than real news in social networks.

Facebook privacy whoopsies

Timeline of issues faced by Facebook



SOURCE: MIT Bitcoin Expo, Clovyr

After a decade of data breach scandals resignations of senior staff and founding executives' condemning Facebook's business model, could sentiment be irreversibly damaged? What is most interesting is that the company is focusing heavily on blockchain to patch itself up.

Social media platforms have been around for over 20 years and 99% have disappeared. Even before MySpace and Bebo there was Friendster, all had the same premise as Facebook but the

reason it has endured is the **addictive features** on Facebook that play on human psychology. The public is now aware of this.

Ethereum, the backbone of Web 3.0 and decentralized media

The shape of a decentralized media (DeMe) landscape of Web 3.0 is emerging to provide a new autonomous model for information, news, advertising and data curation. Most DeMe projects are built on the Ethereum blockchain and on ERC20 tokens and the Brave Browser, from the creator of Javascript Brendan Eich, is the gateway to the decentralized web and perhaps the most mature media platform. It recently reached its milestone to introduce a **reward scheme** for users watching online advertisements.

Brave turns the captured attention economics of Web 2.0 on its head by allowing users to ‘tip’ creators and publishers for content directly through micro-payments in BAT which they earn for expending their attention on other platforms. Steemit, built on its own delegated-proof-of-stake blockchain, is a user-curated content platform (similar to Reddit) takes a different approach, tackling two issues: the degradation of social media content and cryptocurrency adoption.

Blockchain disrupting the media supply chain:



Payment models for content producers	Bypassing content aggregators/distributors:	Inverting the ad-based revenue model:	Music royalties services:	Decentralized digital advertisement exchanges:	Decentralized Identification portals:
Brave Brower's BAT token and Steemit's STEEM create new models for paying publishers per use of content instead of monthly subscription fees.	Steemit and Peepeth P2P sharing and rewarding content and liberalizing the blog, forum and news markets.	Brave Browser - Rewarding users for watching ads and inverting the current search engine business model; users tip in BAT for worthy content instead of news agencies deciding news values.	Blockchain and smart contracts can automate the complexity of collecting royalties and dues. Ujo music - removes intermediaries between musician and customer.	The AdEx platform is DEX for digital advertising, removing the middlemen to connect publishers directly with advertisers. AdChain curates a list of domains to provide advertisers with a community-vetted stamp of approval on the websites best suited for serving ads.	Sphere Identity and uPort are self sovereign ID Dapps which users can use as login portals across platforms and for official documentation. As opposed to other single-sign-on providers such as Twitter or Facebook accounts, users remain retain control of their data.

SOURCE: BRAVENEWCOIN.COM

Decentralized alternatives have emerged for creators, curators, aggregators, advertisers and agencies.

The Steemit platform brings together content creators, users and curators in a three-token economy to build a public community that is owned and controlled by those with a long-term perspective as opposed to the short-termism of publicly-listed media companies that are incentivized to plan for earnings results and shareholder meetings.

Steemit uses a different micropayments model to Brave for upvoting or downvoting content (tipping is optional). Content producers are paid in small transactions of its STEEM token not by aggregate spending of circulating tokens but through the creation of new tokens, so the overall supply of the currency increases with use - Steem pays people to figure out who should be paid.



US election 2020: An upwind for decentralized internet and media?

There are several presidential hopefuls, such as Elizabeth Warren, running with anti-trust policies and calling for the break-up of Big Tech.

On top of that, Millennial and Gen X politicians Alexandria Ocasio-Cortez and [Andrew Yang](#) are appealing to younger voters with what many consider to be ‘radical’ social economic policies such as Modern Monetary Theory and Universal Basic Income. Their progress and popularity could be used as a barometer for sentiment against the status quo (and perhaps by extrapolation pro-blockchain), and if they’re ultimately successful in breaking up Big Tech it would remove the main obstacle in the way of Web 3.0.

Today, nearly all influential media outlets, from Reddit to CNN, are part of a listed parent company beholden to shareholders and dependent on ad revenue. This cannot provide a platform for society to make informed decisions make and compelled by the economic necessity of delivering an identifiable market segment to advertisers, continues to polarize opinions into various forms of extreme populism - left, right and the extremely indifferent.

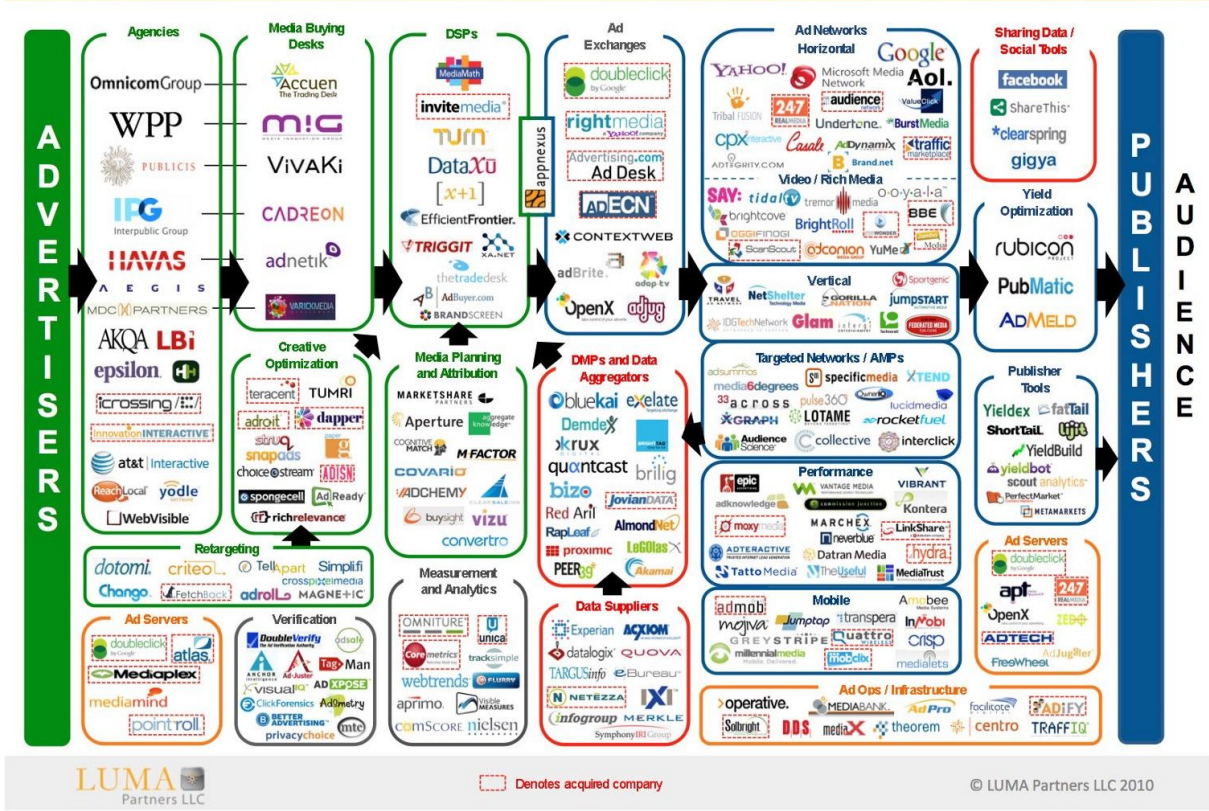
Digital landlords and ‘weaponized media’

Before we unpack the constituent components and opportunities presented by the new blockchain media, it is worthwhile drilling down a little more into the current media landscape and its impact on democracy and society at large.

As the internet has disintermediated traditional news outlets it was predicted to have a positive impact on informing public discourse but it has instead had the opposite effect. As internet users are fed information from algorithms based on their reading history, interests and social network (“[filter bubbles](#)”) people have instead become more entrenched in their beliefs and intolerant of others.

These ‘news’ algorithms are fed with the same user data owned by the internet landlord class (Big Tech) who use it to extract rent from websites through various streams of ad revenue while the smaller players, including traditional media, scrap for the crumbs.

Display Advertising Technology Landscape



Big tech players Yahoo, Microsoft Facebook and Google sit at the top stratum of the complex advertising landscape, taking the lion's share website ad fees while a host of middlemen down the chain take the rest.

Despite the evidence of Russian interference in the media during the 2016 election, Facebook's Cambridge Analytica controversy and inquisitions on Capitol Hill, there has been no significant legal repercussions in the US or changes to the regulations that allowed it to happen. If anything, the tech/digital media sector's duopoly/triopoly has continued unabated - Facebook, Google and Amazon Media group are **projected to amass \$245b in online ad revenue in 2019**.

In March Facebook removed ads on the platform from presidential candidate **Elizabeth Warren** who called for the break-up of Facebook and better anti-trust laws. It also **banned content from Zero Hedge** appearing on any of its mediums, citing that it went "against Facebook community standards", but after widespread backlash both decisions were quickly reversed.

Far from embracing the open-source decentralized ethos of blockchain, Facebook is using it to expand into the trillion-dollar remittance market with its 'cryptocurrency' and challenging Web 3.0 with overtures to its own blockchain endeavors.



Why there have been no antitrust laws for big tech

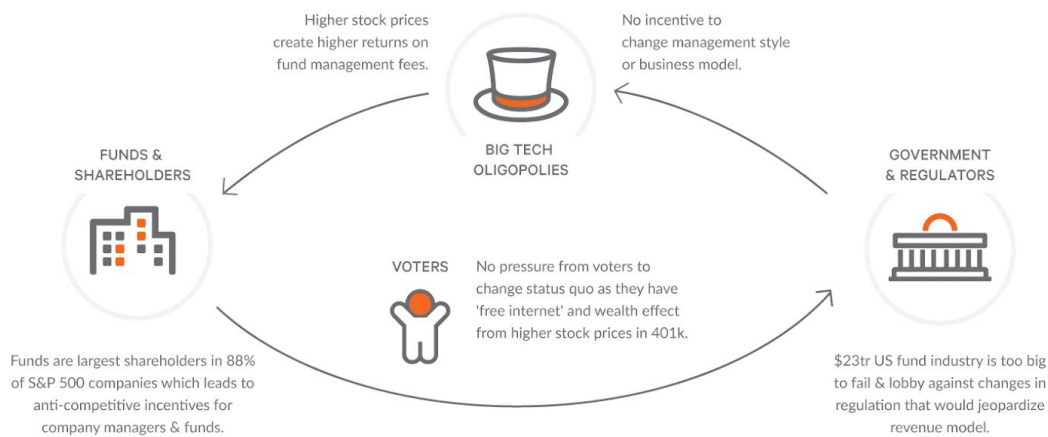
The failure of US regulators to enforce meaningful antitrust laws on big tech and cross-ownership of companies has created industrial oligopolies, new media moguls and fake news narratives which former President Barack Obama has referred to as a “**threat to democracy**”.

The media plays a huge and growing role in shaping democracy. To this end, President Trump’s war on the media and even his tenure as president is seen by some as just a springboard for launching his own news network. Trump’s son-in-law **Jared Kushner** is also reported to have met with investment bankers to fund a media venture.

Trump’s appointment of media executives as advisors, from Breitbart CEO Steve Bannon to former Fox News CEO Roger Ailes, conspicuously points to a right-wing conservative leaning for his media ambitions. Dr Pippa Malmgren, a former economic and policy advisor to President George W Bush who correctly predicted Trump’s election and the Brexit vote, believes Trump was planning to **launch TNN (Trump News Network)** before the election to compete with CNN which he regularly attacks.

Big tech feedback loop on regulation & antitrust law

A finely balanced status quo



SOURCE: BRAVENEWCOIN.COM

Not only is the concentration of media ownership in danger of creating a Big Brother-style of thought policing, **but horizontal ownership of companies** by large funds has been shown to decrease competition, increase prices and create a collusive relationship between the funds and company owners, influencing a firm to behave anti-competitively through voting on general corporate governance matters.



Robert Shiller's study on the [irrational exuberance](#) of asset prices asserts media has a large role in the positive feedback loop between public perception and asset prices:

"Driven as their authors are by competition for readers, listeners, and viewers, media accounts tend to be superficial and thus to encourage basic misconceptions about the market... These include greatly increased media coverage of business, the aggressively optimistic forecasts of stock analysts, the rise of 401(k) plans, the mutual funds explosion, and the expanding volume of trade."

- Robert Shiller, Irrational Exuberance

Arguably, it is against [Facebook's interest](#) to purge its platform of fake news stories as it would have to assume the costly human-reliant role of an editor (the world's largest) and lose out on billions of clicks of ad revenue. Thus, Facebook is doing everything it can to convince regulators it is a 'media platform' and not a media producer, and, so far, regulators and the public are complying with them.

The current problem: Media echo chambers

The echo chamber effect describes the self-reinforcing loop between selective information and people's opinions which further entrenches their beliefs. This often results in people clustering with other like-minded people online leading to confirmation bias. [The same media echo chamber effect inflates asset price bubbles](#) just as it inflames extremism of views.

Essentially what is missing from these echo chamber is 'falsifiability' of counterviews and theories which decentralized newsfeeds like Relevant can present people with as there is no 'news agenda' and it rewards quality in reputation tokens users can cash into cryptocurrency. The concept of falsifiability is opposed to irrefutability and was pioneered by Karl Popper to stress test a theory scientifically by trying to prove it false with opposing research.

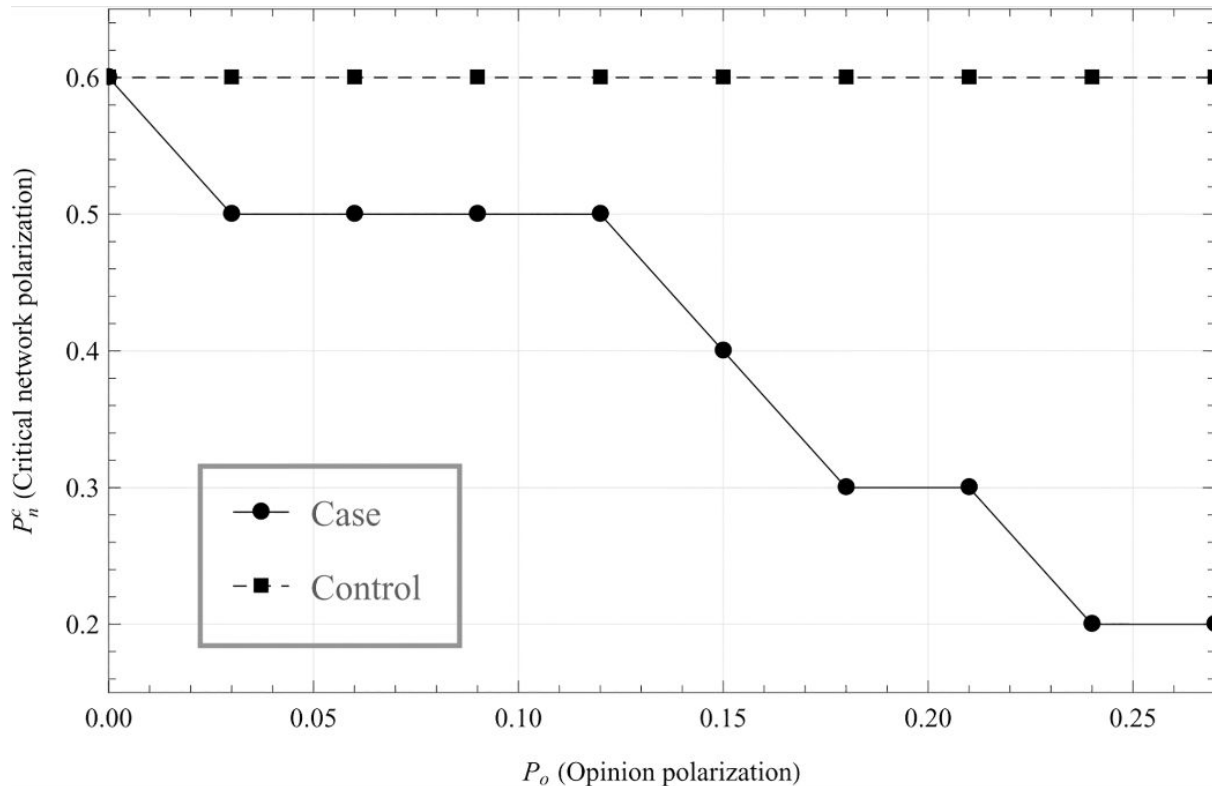
"A theory which is not refutable by any conceivable event is non-scientific. Irrefutability is not a virtue of a theory (as people often think) but a vice." - Karl Popper

In the absence of counter-evidence, social media echo chambers perpetuate theories (often conspiratorial) and narratives such as white supremacy. DeMe projects such as Brave, Steemit, and Relevant may mitigate this tribalizing of online communities by making every user of a platform responsible for the information created and curated. Information and ideas will be more measured with reputation staking and those ideas that don't pass the falsifiability test (such as white supremacy) will not gain traction.

How echo chambers spread viral misinformation

Social media has been lambasted for creating echo chambers that perpetuate hate and bigotry, in a modern form of propaganda (although the effect can be negated by using [lists on Twitter](#)).

An [analogy for echo chambers](#): If the viral spread of misinformation in a social network is akin to a wildfire, an echo chamber has the same effect as a dry pile of tinder in the forest - it provides the fuel for an initial small flame, that can spread to larger sticks, branches, trees, and finally engulf the forest. In this sense, social media echo chambers act as the tinder that sparks other surrounding trees (media outlets) into a digital wildfire.



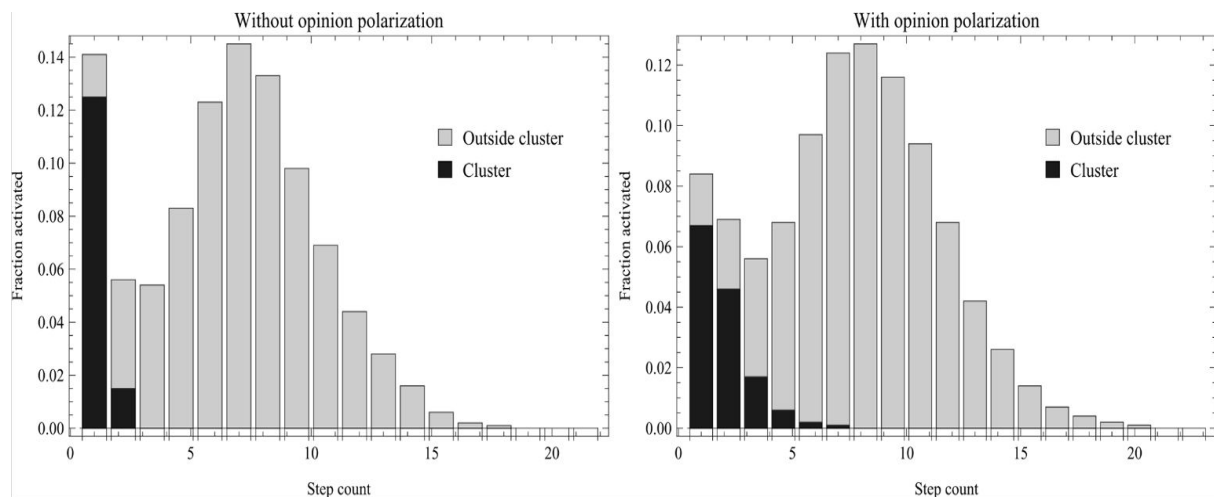
This graph shows the network polarization P_n (y-axis) for which the highest virality is reached depends on the opinion of polarization P_o of the cluster (x-axis) in the 'case' data. The control group shows no difference. Source: [Echo chambers and viral misinformation: Modeling fake news as complex contagion](#)

Opinion polarization means that each node in a network is more inclined to share similar views and have a low threshold for being convinced of that view. Network polarization means that nodes are more densely connected with each other than with the outside network.

The graph above shows the synergy between both polarizations that spreads an idea virally. It shows an echo chamber has more external network connections/fewer internal connections (lower P_n) and high opinion polarization (P_o) as participants within the echo chamber need little convincing and instead would be inclined to convince others outside. Thus stopping the contagion of misinformation from clusters of people inside the echo chamber to those outside it is important to prevent the diffusion of fake news.

Content algorithms can compound echo chambers

There are two phases in the diffusion process: first, the cascade spreads locally via strong, short-range ties, and gathers the critical momentum it needs to transition into the second phase. In this second phase, the diffusion starts to spread also through long-range ties, to the rest of the network. Hence, in the first phase, echo chambers play a part in building strong local connections so that in the second phase the information can spread like a contagion through weak ties.



The two phases of activation: first, the activated nodes almost exclusively belong to the echo chambers, second, it spreads to the larger network. The left graph has no difference in virality activation threshold between inside and outside the cluster, while the right has a threshold of opinion polarization (P_o) = 0.2.

Algorithms further compound echo chambers as the more data they're fed about users' reading/viewing/social habits the more of that same content they target towards them and with 2.5 million posts on Facebook and 500 hours of video uploaded on YouTube every minute it is not possible for humans to curate the world's internet content. False content spreads virally as users have no skin in the game when posting and algorithms moderating content can be easily skirted by making small edits to the content.

To see this system in action we need look no further than Wikipedia, the biggest decentralized self-amending information market curated by a community of (human, not algo) contributors, editors and moderators. Even without monetary incentives its longevity, despite the odds, is due to its content improving over time, in stark contrast to traditional media and social media where quality has degraded.

The decentralized solution: Curation markets

Curation markets are a blockchain innovation with the aim of coordinating and sharing responsibility for the valuable contributions people make to the cultural commons.

Pioneered by Simon de la Rouviere, the creator of blockchain music streaming service [Ujo Music](#), curation markets are emerging field in blockchain for information and data sharing, where those sharing stake their reputation and assets on [bonding curves](#) that automatically distribute or detract rewards depending on its quality or veracity.

A curation market is a smart contract on Ethereum that is deployed for a specific goal or topic that allows the minting of tokens set by a hard-coded algorithm. Bonding curves are an algorithmic market-maker for an individual token that maintains a constant price up and down the supply curve but rewards early participants with more tokens than latecomers.

“Curation markets allows groups to coordinate around shared goals (and interests) and benefit from the value they collectively create. It does this by adding tokenized, skin-in-the-game signals to information curation.”

- Simon de la Rouviere, Engineer of Societies at ConsenSys.

In his curation markets whitepaper, de la Rouviere posits that this solves three core problems:

- 1) Owning the value you create: Information creators & curators that are not reaping the collective value extracted from the platform.
- 2) Improving coordination: The difficulty in coordinating amorphous groups around shared goals: including things like open source projects, to global warming.
- 3) Increasing novelty of information shared: Curating an increasing abundance of information with skin-in-the-game signals.

There are several projects developing curation markets and bonding curves, Ocean Protocol, the DEX curating big data for AI, and Relevant, a newsfeed aggregation platform, which both bring skin into the game through honest signalling. Bonding curves are also core to the Bancor Protocol.

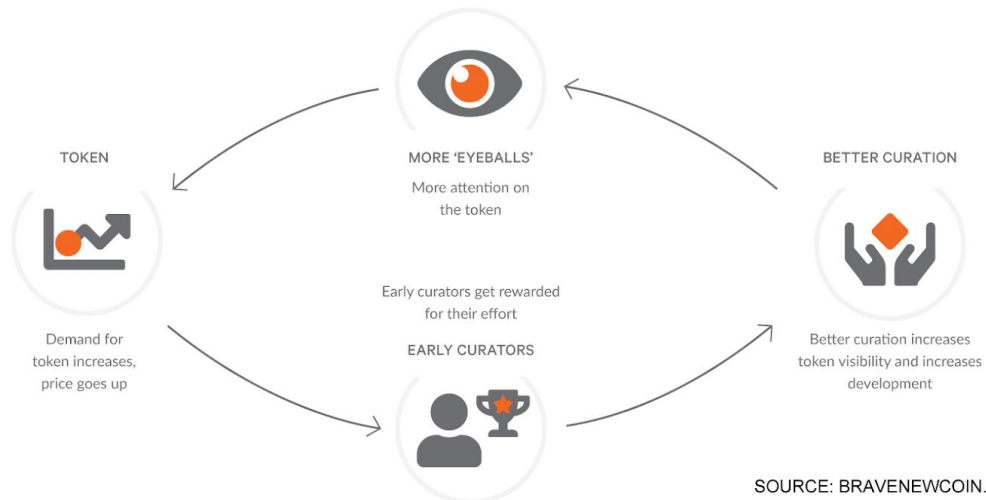
The economics of attention tokens

In curation Markets, topic-based communities can coordinate around sharing information and if effective curation occurs, it attracts new participants and thus a topic-based community that curates well, can collectively earn from doing so.

The minted tokens are bonded to specific curators chosen by the token holders per sub-topic. Using their proportional standing in the curation community (per topic), these curators then back certain information (equivalent to an “upvote”). They can also revoke their backing. Topics are open. Anyone can create a sub-topic for whatever they want to curate around.

Network Effect Hypothesis

More 'eyeballs' translates to higher valuation of the network and is reflected in token's price



SOURCE: BRAVENEWCOIN.COM

In order to curate the information, one needs to bond one's tokens to a specific curator for a specific sub-topic. It can be oneself or another person. In some circumstances, one would wish to delegate one's stake to someone whom one regards to curate well and eventually there could be a bonding market per topic.

This skin-in-the-game concept will be further cemented by self-sovereign Dapps such as Sphere Identity or if users are required to sign in with an immutable identity instead of the easily gamed and faked social media login accounts of Facebook and Twitter.

Eventually, many curation markets will hopefully exist that uses different monetary experiments. This will hopefully lead to efficient designs of curation with tokens used to back information in order to add skin-in-the-game signals to them and curate. Thus, for some topics, there might be several curation markets.

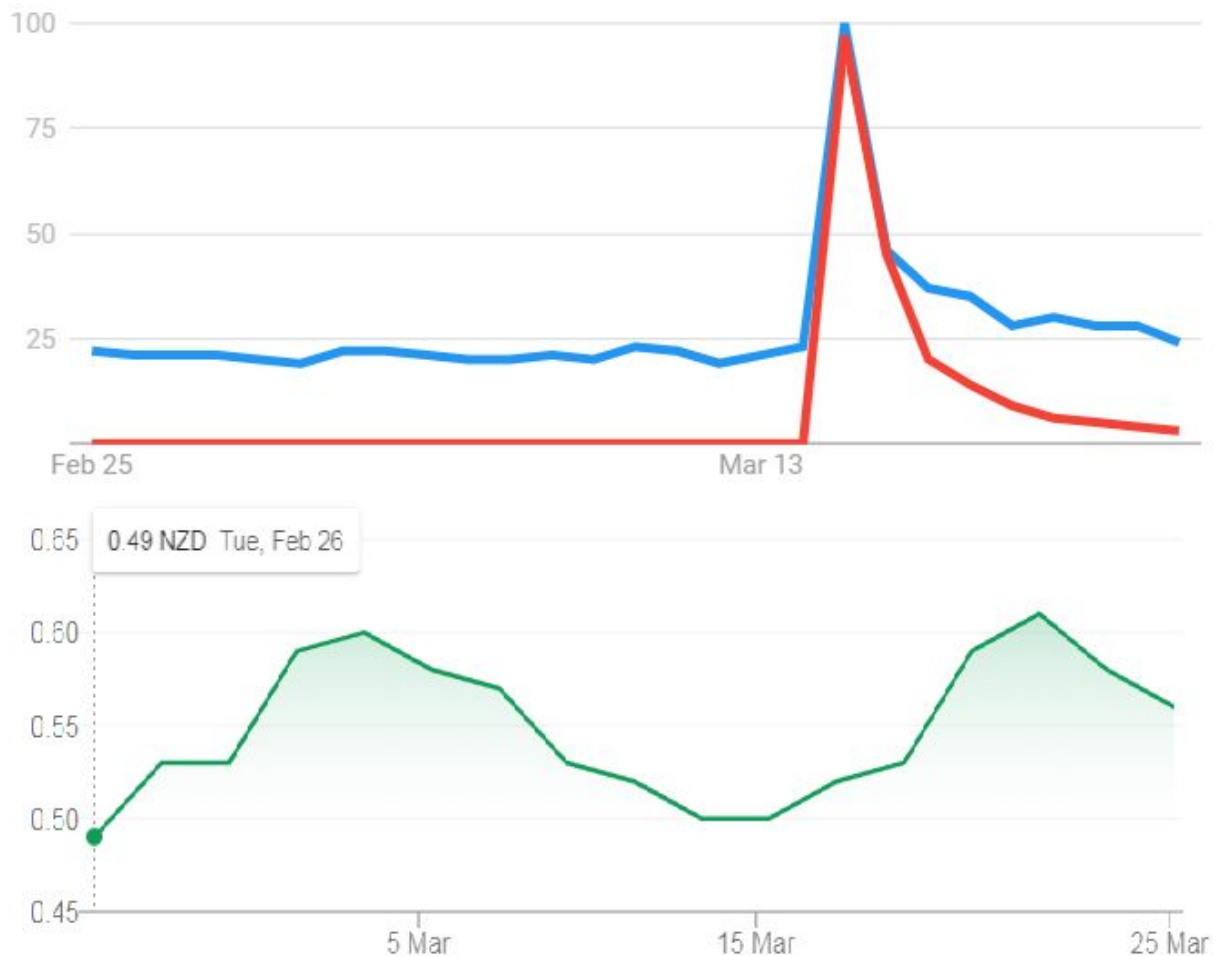
The current problem: Spreading offensive content

Facebook (and to a lesser extent YouTube) has been portrayed as an accomplice of the gunman in the recent Christchurch terrorist attack - vilified for livestreaming his video as well as its role in disseminating the kind of extremist content that encouraged him to commit the act in the first place.

The argument for human versus algorithmic content curation on social media platforms has reached fever-pitch since the Christchurch shootings were livestreamed on Facebook from the gunman's GoPro and re-posted elsewhere from YouTube to Reddit. Although we can be certain



that Facebook did everything in its power to censor and remove the content, there has been a large social and media backlash against it and its efforts.



The top chart shows the worldwide interest in searches for "New Zealand Herald" in blue and "Christchurch attack" in red leading the share price of NZME in the chart below. Note that the two charts are in different timezones - price chart is in NZT and the trend chart is in EST - so that the spike in trend on March 14 equates to March 15 in share price.

Echo chambers can also be created by traditional media after big events as they prolong the coverage and exhaust every possible angle and squeeze keywords into every article to generate the most amount of clicks.

A recent example (shown in the chart above), is the spike in worldwide searches for the keywords "NZ Herald" and "Christchurch attack" in the aftermath of the March 15 (NZT) attacks. The *New Zealand Herald* and its parent company NZME is the country's largest media company. The spike in the keyword searches preceded a 22% bull run in the share price of NZME when the local sharemarket reopened Monday following the Friday evening attack.

Despite the traditional media crying foul over Facebook's livestreaming of the shooting and the subsequent witch hunt, it is increasingly the case that the social media agenda leads the

traditional media agenda as the latter is inextricably reliant on social media for breaking news, Tweet-based stories, clickbait headlines and video content.

Offensive content will remain on the internet but exploring ways to more easily identify the people who spread the offensive content or make it more difficult to spread content virally is possible through the emerging concept of curation markets and staking identities.

The decentralized solution: Staking reputation and skin in the game

A fundamental problem with today's media and particularly social media discourse is that people are not required to have skin in the game when posting - they can troll, spam and disseminate all behind a pseudonym or fake account with few incentives not to game the system.

If users of Dapps and websites are required to log in through verified login portals such as [Sphere Identity](#) or [uPort](#) it could enhance quality and cull fake accounts thus slowing the spread of violent or offensive content.

Verified digital identity portals at login

Sphere Identity (XID) is a digital identity Dapp addressing the billion undocumented people across the globe but also streamlining single sign-on and the online user registration process. This has benefits on both sides of the interaction: for companies the customer verification process is automated and it is immutably true that the person is who they say they are, and, for users, they don't need to fill out copious form fields nor do they have to worry about the company sharing (or losing) their private data as the user retains control of it.

Just as the reputation of newspaper journalists of another era would live and die by their byline, citizens in the information age who now have the same powers to create news should be held to the same reputational standards.

DeMe news platforms such as Relevant are already working with a reputation system which is earned over time by upvoting and sharing good quality content - once your coins are staked on that post it stays there and you either gain or lose reputation with the subsequent votes cast on it.

Crypto media assets and platforms that may benefit

One of the biggest ICOs of all time was Telegram, an encrypted messaging app which raised \$1.7b in 2018; however, its token GRAM is still largely redundant as it has no utility on the app nor is it tradeable on exchanges.

Media was the first use case for many Dapps but their usage has fallen along with the price of their tokens. Through these native tokens decentralized platforms enable micro-tipping for the best quality content so it rises to the top instead of the top-down editorial model.

Looking at the most viable Dapps in the media space the price of their tokens have all rallied in the past month, coming off yearly lows in February. Below we look at the various problems they address in the media supply chain and the solutions they propose, taken from their whitepapers.

Steemit

Steemit is the most prominent blockchain media/news project to date, a user/community-curated media platform akin to Reddit. It is a delegated-proof-of-stake blockchain built specifically for media applications and has some Dapps built on top, including a decentralized YouTube, [DTube](#).



The price of STEEM equity token of the Steemit platform rose 20% in the month to April 1.



The price of STEEM is down 88% from its 1-year high in late April.

The problem: The basic tenet is to improve upon Reddit and other community news sites. Other DeMe Dapps can be built on top of Steem's blockchain.

The solution: A complex three-token economy in which users vote on Steemit content with STEEM POWER tokens and receive dividends for holding it as the network expands.

The STEEM token is like an equity share of the Steemit platform, designed to be traded on exchanges and be active on the crypto open market. If users are concerned about crypto volatility, Steemit also offers a STEEM DOLLARS (SBD) option, which is a 'within the ecosystem' currency that pegs a user's Steemit stake one-for-one with the US dollar, with users also receiving a 10% yearly reward for holding. Users can choose to receive SBD for curating and creating content, or they can exchange it for STEEM.

Brave Browser

The gateway to decentralized internet and digital media based on the premise that users' attention is a precious resource that has been commoditized and sold to advertisers. Brave disrupts this model by compensating internet users for their attention spent watching advertisements in its native currency, BAT.

The founder and CEO of Brave, Brendan Eich, is also the creator of Javascript and co-founder of Mozilla. Brave also changes the traditional online subscription model with a microtransaction model - where users currently need to manage their subscriptions individually on a site-by-site basis, the Brave/BAT combo creates a seamless payment experience which occurs invisibly in the background while surfing the web. Brave users can also enable direct payment support for YouTube and Twitch streaming.



The price of BAT rose 80% in the month to April 1.



BAT is down 40% from its yearly high of just over \$0.50c in May - a strong performance.

The Problem: We are in an age of Peak Advertising: every possible channel and medium has been saturated with targeted ads to the detriment of our online experiences and the efficacy of those ads. The original open-source vision of the internet has been monopolised by powerful internet landlords (internet browsers, social media and digital advertising platforms) which have the lion's share of user data and ad revenue.

The solution: Recognizing that people's attention is a valuable resource, Brave is targeting the digital advertising duopoly of Google and Facebook in particular to create an alternative platform to their ad-revenue based models which rewards users with its native currency BAT for attention expended on watching advertisements.

Earlier this month, Brave announced opt-in "Brave Ads" within the browser's Brave Rewards settings. The function will enter beta in June this year and allows users to be paid in BAT for viewing and interacting with ads curated by the Brave platform. Brave claims this system will entitle "users to receive 70% of the gross ad revenue". Besides the monetary incentives Brave also has [page upload speeds 8x faster than Chrome or Safari](#).

Po.et

Po.et is a shared, open, universal ledger designed to record metadata and ownership information for digital creative assets. Po.et is a continuation of Proof of Existence, a non-financial application built on the bitcoin blockchain.

0.00571035 USD 24 hr Price
1.5087% (0.00008487)

Open	0.00562548	Market Cap	17,939,594.00	24H Volume (USD)	877,713.64
High	0.0058761	Total Supply	3,141,592,653	24H Volume (POE)	153,705,751.837
Low	0.0055835				



POE has gained 26% in the month to April 1. It is down 90% from its 1-year high set in early May 2018.



POE is down around 90% from its annual high of ~\$0.06c

The problem: Digital content lacks metadata information such as authorship, ownership, history and often the date of creation. Furthermore, metadata can be altered or removed after it has been finalized by the author, transferred to the cloud, resized or optimized for network performance. This inherent lack of verifiable information breeds uncertainty, especially when applied to complex chains of licensing, syndication and ownership.

The Solution: For example, a digital publisher licensing a pre-published article does not have the ability to be certain of whether the document in its current form is authentic and owned and able to be licensed. Po.et aims to transform the publishing industry by creating an immutable and distributed ledger for creative works that may serve as a platform for both centralized and decentralized media applications.

AdChain

AdChain is addressing the plague of bots in digital advertising, where advertisers unwittingly purchase bot traffic from ad exchanges, defrauding them of over \$16b annually. Because supply chain entities downstream from the advertiser are generally paid on a cost per mille (“CPM”) basis, their incentive alignment is towards maximizing impressions irrespective of whether those impressions are from human eyeballs or bots.



The global spot price of ACT is up 15% in the month to April 1.



ACT is down 96% from its 1 year high of \$0.40c in May.

The AdChain Registry is a decentralized whitelist of over 1,400 industry members and 100,000 participants who hold adTokens staking them to vote on whether an applicant to the registry is a legitimate publisher or not. Token holders realize value not by the number of ad impressions but by the number of publishers applying to, and, renewing listings on the registry.

AdEx

AdEx is a decentralized ad exchange built on the Ethereum blockchain using smart contracts to cut out the many middlemen in digital advertising and obviate the need for big players like Facebook or Google.

0.00751717 USD 24 hr Price
1.9642% (0.00014481)

Open	0.00737236	Market Cap	5,532,637.00	24H Volume (USD)	870,995.09
High	0.00766636	Total Supply	1,000,000,000	24H Volume (ADT)	115,867,419.521
Low	0.00724502				



Constituent Prices

Name	Last Price	Price USD	24H Vol ADT	Vol %
<input checked="" type="checkbox"/> KRW	8.55000000	0.00751613	113141362.29785816	97.6473%
<input checked="" type="checkbox"/> BTC	0.00000184	0.00756030	2726057.19094479	2.3527%
<input type="checkbox"/> ETH	0.00006590	0.00913646	0.00000000	0%
<input type="checkbox"/> RUB	0.57323998	0.00889957	0.00000000	0%
<input type="checkbox"/> USD	0.00899900	0.00899900	0.00000000	0%
<input type="checkbox"/> DOGE	3.24842539	0.00634551	0.00000000	0%

The global spot price of ADX rose 20% in the month to April.



ADX is down ~87% from its 1-year high of \$0.07c set in late April 2018.

The Problem: There is a whole range of middlemen who take a scalp in digital advertising spend on many different ad exchanges - DSP, SSP, DMP and hybrids - which obfuscates the issue even more.

The Solution: Serving a similar function to the Brave Browser, Adex connects publishers and advertisers directly - with the goal to make digital advertising cheaper, more accurate and more effective for users. Advertisers' fees go directly to publishers with no charge from the exchange.

The AdEx platform is designed to disrupt and replace the traditional digital advertising models by providing a transparent, focused solution for advertisers to collaborate with ad publishers and reach the best potential clients.

Aragon

Aragon is creating a protocol for arbitration of decentralized internet native companies in new digital jurisdictions. It is an Ethereum native project which allows for enhancing democratic processes to a project and enhances transparency in the voting by acting as a court and judge in disputed outcomes.

0.49424725 USD 24 hr Price
-2.2523% (-0.01138868)

Open	0.50563593	Market Cap	14,684,365.00	24H Volume (USD)	35,005.91
High	0.50653491	Total Supply	39,609,524	24H Volume (ANT)	70,826.717
Low	0.48479118				



Constituent Prices

Name	Last Price	Price USD	24H Vol ANT	Vol %
<input checked="" type="checkbox"/> BTC	0.00012105	0.49737029	34091.24487261	48.1333%
<input checked="" type="checkbox"/> USD	0.49000000	0.49000000	32422.00687382	45.7765%
<input checked="" type="checkbox"/> ETH	0.00352964	0.50148279	4312.45794175	6.0887%
<input type="checkbox"/> KRW	600.00000000	0.52744800	1.00000000	0.0014%

The price of ANT has gained ~16% in the month to April.



ANT is down ~86% from its 1yr price high of \$4.71 set in early May.

The Problem: Unlike arbitration in physical jurisdictions, digital companies which exist purely on the internet need a new structure for regulation and arbitration. This nebulous borderless digital world is one reason government regulators have been so inept at enforcing or regulating Big Tech - every country and region is acting unilaterally within its own laws and there is no supranational effort between countries or protocols to deal with companies that now span the world.

The Solution: Instead of the thousands of people employed in layers of bureaucracy and millions of pages of legal documents, Aragon proposes to codify laws and supranational governance protocols for decentralized organizations 'bureaucracy free'. From customer to business disputes and settlements and providing tools for building decentralized businesses the intent is to be the 'world's first digital jurisdiction'. Similar to how the Hanseatic League operated in the middle ages as a cross-jurisdiction trade association, Aragon intends to increase collaboration and organization between DAO developers and projects across the world.

Aragon adds a protective moat around Dapps claiming its organizations "are impossible to censor or shut down, escaping the boundaries of oppression and censorship."

Ocean Protocol

Ocean Protocol is creating a decentralized global decentralized data exchange where companies and individuals can buy and sell their big datasets for AI development. The project aims to unlock the big data needed for AI development to 'democratize AI'. It recently launched its beta network and finished crowd funding for its Ocean token. Users of the network include Johnson & Johnson and Roche Diagnostics.



Ocean Protocol (Blockchain Service)

Ocean Protocol is a decentralized data exchange protocol that lets people share and monetize data while guaranteeing control, auditability, transparency and compliance to all actors involved.



Token Sale **ended**
20 MARCH 2019

\$26,900,000
OF
\$32,800,000 (82%)

[WEBSITE](#)

[WHITEPAPER](#)

social links

Ocean Protocol finished crowdfunding for its native token on March 20. Source: ICOdrops

The Problem: Many enterprises have plenty of data but don't know how to make it available to the world. Latent value lurks everywhere. Conversely, many startups know how to turn data into value using AI, but they're starving for data. Only a handful of companies in the world — Google, Facebook, and the like — have both massive datasets and the AI knowledge to turn it into value. Their moat is *data*, not AI algorithms. They've used the combination of data and AI to become the most powerful companies in the world.

The solution: Through the native Ocean token, the aim of the project is to unlock big data and democratize AI and machine learning development. The belief behind the project is that a lack of trust in centralized databases is preventing data from being shared between competitors and blockchain-based incentives can encourage sharing of datasets for higher-accuracy models.

Relevant

Relevant is a social news reader that values quality over clicks with the mission to create a token-backed qualitative metric for the information economy — making the human values of veracity, expertise and agency economically valuable. Users earn reputation and Relevant credits that can be converted into cryptocurrency.

The Problem: The internet has given us access to more information faster than ever before — but the quality of that information is deteriorating and we are beginning to see the consequences. Relevant believes the current culture of misinformation is a direct result of the way we measure online behavior and proposes a metric of 'return on attention' (ROA).

The Solution: To reduce the echo chamber effect what Relevant measures is the saliency of the content. The user is not the center of the Relevant universe and is not presented with content filtered by who they know, how they feel or what they buy, but by what is most salient on the platform as a whole. The feed is a result of communal curation, not personal preferences which could challenge people's theories and opinions with a measure of falsifiability.

Peepeth

The decentralized version of Twitter is still in its infancy and hasn't yet reached a critical mass of user growth, with just **4,330 users and a little over 70,000 Peeps** (ie. Tweets).

It mitigates the abuse of bots and fake accounts that Twitter is notorious for by proof of ownership of the account via an oracle contract (which, ironically, for the moment is a Twitter account)

The problem: Twitter harvests user data which it can lose or pass onto other entities. The low signal-to-noise ratio favours self-promotion, echo chambers and digital tribalism.

The solution: Permissionless microblogging platform using Ethereum blockchain means:

- No ads

- User empowerment and control
- Millennial values are built into it, such as an emphasis on features that encourage thoughtful content, altruism, and self-awareness.

Roadblocks and risks for DeMe: Big tech inherently opposed to Web 3.0

The internet is the only place where citizens can assume any number of fake addresses, names, personalities and act in ways they would not in the real world. Although the world of cryptocurrencies is often portrayed as being a 'Wild West', it is crypto's underlying blockchain technology that, ironically, has the potential to make internet's citizens responsible for their behavior.

Today Facebook, Google and Amazon are the leaders in a winner-takes-all economy and far out of reach of their closest competition. As data is the cashflow of many big tech companies it is not in the interest of these firms nor their shareholders to see the internet and apps transition to a decentralized Web 3.0 where users are in control of their data. This would jeopardize the vast advantage Google and Facebook have in AI as the algorithm development required for AI and machine learning relies on connecting private **silos of data** together - data that Facebook, Google and Amazon have by default.

Currently, a California Bit Licence bill is being resurrected for the fourth time since 2015. The Bit Licence adopted in New York is cited as the **main reason** for many major blockchain companies leaving the state and requires blockchain entrepreneurs to seek a second licence from regulators on top of the mandatory business operation licence. The licence enforces onerous requirements on holders to share data with regulators and the FBI.

Big tech companies have been accused of **supporting the senators** tabling the bill in California, Nevada, Hawaii and Oklahoma, although no formal accusations have been brought.

Conclusion: Current media model close to the end

Quality objective media and journalism is in a death-spiral. Currently its survival depends on centralizing under the umbrella of a parent company under the patronage of vested interests or on public donations, such as the UK's Guardian, Wikipedia and other alternative outlets.

Investors should be aware that many social media companies have come and gone before Facebook and Twitter came along and improved upon the user experience and engagement fads. The incumbents will change again and the next 'Facebook' could be lurking in the trend towards decentralization.

With the pollution of fake news on social media platforms and the Big Brother approach of digital media oligopolies resurfacing as the 2020 race for the White House begins, investors should watch the development of the crypto projects featured in this article, and be aware that there may be decentralized alternatives to the FANG stocks lurking. On a macro level, social sentiment against big tech can be a good gauge to complement price and to consider entry positions.

There is no doubt that there are better ways to disseminate news and information than through central intermediaries who serve the vested interests of trillion dollar shareholders, who themselves have arterial connections with government, politicians and lobby groups. Having a decentralized autonomous organization as a faucet of democratically important, impartial information is a logical conclusion of the fake news era.

Author Bio

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Andrew writes research on macro-investment themes in the digital markets and around the emerging field of token-economics with data from BNC. He also leads the Economic Analysis Working Group with the [Government Blockchain Association](#) exploring the use of blockchain in the economy, environment and society.