

Foreign Interference through Social Media

Submission

5 November 2021



Committee Secretary Senate Select Committee on Foreign Interference through Social Media Parliament House PO Box 6100 Canberra ACT 2600

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Joint submission to the Inquiry into Foreign Interference through Social Media

Introduction

The Migration Council Australia (MCA) as the auspice of the newly established Centre for Digital Wellbeing (CDW) welcomes the opportunity to make a submission to the inquiry into the risks posed to our democratic processes through social media platforms. Social media can be an avenue for adversaries to undermine Australians' trust in our institutions, including our democratic institutions, and to spread disinformation. We welcome the attention given through this committee to the potential risk posed to social cohesion by foreign interference through social media channels. We note that trends towards the decentralisation of information coupled with other trends, such as the decentralisation of finance, has created new spaces for foreign actors to engage directly with Australian citizens in covert ways.

CDW is a research centre focusing on social media's impact on mental health and wellbeing, safety, and social cohesion in the Australian community. By bringing together a network of health, mental health, digital technology and policy experts, the Centre seeks to increase awareness within Australia's policy domain on the impact of social media on Australian society. CDW simultaneously facilitates critical discussions on social media's impact on social cohesion and mental health to inform users and policy makers in Australian society.

MCA is an independent, national body that undertakes research and provides policy advice in relation to migration, settlement and social cohesion. Working across sectors, MCA was established to enhance the benefits of Australia's migration program, support better and effective settlement outcomes and develop policy solutions to issues facing people from migrant and refugee backgrounds in Australia.

For further information on any of the points raised in our submission, please contact MCA on secretariat@digitalwellbeing.org.au or 02 6162 0361.

Recommendations

 That the Government establish an office for disinformation. The role of this office would be to monitor the spread of disinformation, inform the public of disinformation strategies and bring to light campaigns designed to erode trust in public institutions, to destabilise social cohesion and to distort public opinion. • That the Government invest in digital literacy education, including in schools and through the settlement process, with a focus on disinformation and critical thinking in online information consumption.

Background

Social media has fundamentally shifted the way Australians maintain connections, consume content and share information. In recent years, the number of Australians using social media has increased significantly. As of March 2019, over 17 million Australians aged over 14 years used Facebook, representing an increase of nearly 4.2 million users since 2015.¹ Other platforms such as Instagram, TikTok, WeChat, YouTube, Pinterest and Twitter also experienced significant growth in that period.² Social media platforms have seen further increases in usage during the COVID-19 pandemic, with more than one in three Australians increasing their use of social networking apps following the introduction of COVID-19 restrictions.³

Australia is one of the most multicultural countries in the world, with 30 percent of Australia's population born overseas.⁴ In this context, social media plays an important role in helping Australians, including Australia's refugee and migrant population, maintain connections and engage with families and friends overseas. The role that social media plays in facilitating enhanced connectedness across borders is beneficial; however, the increased use of social media and the design of social media platforms also carries risks, including the spread of misinformation and disinformation. Through the decentralisation of information and peer-to-peer networks, social media platforms provide a cheaper, faster and more covert avenue for foreign interference by both state and non-state actors.

What is disinformation?

The decentralisation of information through social media has led to the proliferation of content that aims to mislead, deceive and/or polarise. While misinformation is a term used to describe content or information that is false but was created or shared without the intent to cause harm, disinformation is the purposeful or deliberate creation and dissemination of false information with the intention to mislead or cause harm.⁵

Disinformation can take many forms. It can include false or fake news content or fake news sites, images or text that are altered or distorted, or videos or commentary that include elements of fact mixed with elements of falsehood or exaggeration. Disinformation can also include real material used within a context that presents a distorted view of reality, such as a clip of a speech that is given a new and false attribution of meaning. The amalgamation of false information with truth is a common tool used in disinformation campaigns and is highly effective as a tactic of influence.⁶

 ¹ Roy Morgan, 'Facebook on top but Instagram and Pinterest growing fastest' (17 May 2019) <u>http://www.roymorgan.com/findings/7979-social-media-trends-march-2019-201905170731</u>.
 ² Ibid.

³ Australian Communications and Media Authority, 'COVID restrictions helped increase digital communication use for older Australians' (22 April 2021) <u>https://www.acma.gov.au/articles/2021-04/covid-restrictions-helped-increase-digital-communication-use-older-australians</u>.

⁴ Australian Bureau of Statistics, '30% of Australia's Population Born Overseas' (Media Release, 23 April 2021) <u>https://www.abs.gov.au/media-centre/media-releases/30-australias-population-born-overseas</u>.

⁵ Australian Competition and Consumer Commission, *Digital Platforms Inquiry: Final Report* (June 2019) 616-617. ⁶ See, eg, Australian Communications and Media Authority, *Misinformation and news quality on digital platforms in*

^o See, eg, Australian Communications and Media Authority, *Misinformation and news quality on digital platforms in Australia: A position paper to guide code development* (June 2020) <u>https://www.acma.gov.au/australian-voluntary-</u> <u>codes-practice-online-disinformation</u> 40-41; Claire Wardle and Hossein Derakhshan, *Information Disorder: Toward*

Disinformation, or the amplification of misinformation, is a strategy employed by a growing number of states, in part as it is a low-cost high-yield means to spread narratives, distort opinion and undermine trust in the public institutions of the target state.⁷ While disinformation campaigns are a longstanding tactic, social media networks and the growing connection between social media, infotainment channels and influencers has created new and unprecedented avenues to pursue disinformation strategies. In this way, social media can be utilised by foreign actors—directly and indirectly—to destabilise, erode trust, confuse messaging or flood public opinion.

Disinformation on social media

Social media has disrupted our traditional sources of news and information. Over 12.7 million Australians (60.8 per cent) now cite the internet as their main source of news, including nearly 7.9 million Australians (37.7 per cent) who nominate social media as their primary source.⁸ While previously centralised news services vetted and curated information and facts, social media has led to the decentralisation of information sources through the rise of peer-to-peer content and the proliferation of information through digital channels.⁹

While offering some benefits, decentralisation of information has led to an erosion of trust in information and a reduced trust in vetted fact-based services.¹⁰ Disinformation on social media is also difficult to identify.¹¹ This both decreases the capacity of governments to combat disinformation and increases the susceptibility of Australian citizens to disinformation campaigns. As content that is semi-factual becomes normalised, campaigns that intertwine fact with fiction are more effective and harder to combat.

Information spread on social media platforms is designed to be peer-to-peer. As a medium, social media encourages and optimises content that generates clicks and is shared.¹² It therefore preferences viral content that is more sensational and more emotive.¹³ As disinformation often acts on emotive plays and sensational claims, the content created is more likely to go viral and be shared. There is ample evidence that content that feeds negative emotions, such as anger, fear or uncertainty is more likely to be viewed and passed on.¹⁴ On average a false story travels six times faster to a given population than a true story.¹⁵ Within the context of a business model that relies on an algorithm that encourages engagement, disinformation can have an advantage over truth. As such, disinformation campaigns take

https://slate.com/technology/2021/10/facebook-whistleblower-hearing-haugen-misinformation-anger.html. ¹⁵ Soroush Vosoughi, Deb Roy and Sinan Aral, 'The Spread of True and False News Online' (2018) 359:6380 *Science*

an interdisciplinary framework for research and policy making (Council of Europe, 27 September 2017) <u>https://edoc.coe.int/en/media/7495-information-disorder-toward-an-interdisciplinary-framework-for-research-and-policy-making.html</u> 17.

 ⁷ Australian Competition and Consumer Commission, *Digital Platforms Inquiry: Final Report* (June 2019) 353.
 ⁸ Roy Morgan. 'It's official: Internet is Australia's main source of news; TV remains most trusted' (21 August 2020) <u>http://www.roymorgan.com/findings/8492-main-sources-news-trust-june-2020-202008170619</u>.

⁹ Australian Competition and Consumer Commission, *Digital Platforms Inquiry: Final Report* (June 2019) Chapter 6. ¹⁰ Caroline Fisher, Sora Park, Jee Young Lee, Glen Fuller and Yoonmo Sang (News & Media Research Centre,

University of Canberra), Digital News Report: Australia 2019 (17 June 2019) https://apo.org.au/node/240786.

 ¹¹ Australian Competition and Consumer Commission, *Digital Platforms Inquiry: Final Report* (June 2019) 353.
 ¹² Claire Wardle and Hossein Derakhshan, *Information Disorder: Toward an interdisciplinary framework for research and policy making* (Council of Europe, 27 September 2017) <u>https://edoc.coe.int/en/media/7495-information-disorder-toward-an-interdisciplinary-framework-for-research-and-policy-making.html</u> 13.

 ¹³ Australian Competition and Consumer Commission, *Digital Platforms Inquiry: Final Report* (June 2019) 342-3
 ¹⁴ See, eg, Slate, 'The Most Important Answer from the Facebook Whisteblower' (5 October 2021)

¹⁵ Soroush Vosoughi, Deb Roy and Sinan Aral, 'The Spread of True and False News Online' (2018) 359:6380 *Science* 1146.

advantage of a business model that relies on engagement or attention to generate revenue. Put another way, social media is the perfect vector for disinformation.

There is increasing evidence to suggest that social media has also primed us to expect more emotive and sensational news content.¹⁶ In part, this is a function of a coevolving system. As we have in-built bias to content that affirms our views, identity and sense of belonging, we preference content that is evocative and spend more time engaging with it.¹⁷ In doing so, users are training an algorithm and an information ecosystem that rewards sensationalism. Simultaneously we are also training ourselves to normalise, accept and expect content and information that is presented as sensationalist, affirming or outrageous.¹⁸

While social media platforms that utilise algorithms to drive and monetise information are of significant concern in aiding disinformation, they also exist in an information ecosystem. The proliferation of polarised infotainment style news sites and channels that extract content and disinformation from social media or pick-up articles from influencers assists in amplifying disinformation. Increasingly the connection between online infotainment news and channels and social media is complex and two way, with sites and channels picking up themes and promoting content back through social media to increase audience spread and engagement. For consumers of content, this creates a network where disinformation tracks across platforms, sites and channels based on user preference and self-selection, generating large scale cross-medium echo chambers.

Disinformation in practice

An example of this is the promotion of critical race theory. Critical Race Theory (CRT) is an academic conceptualisation of structural racism that was developed in the 1970s and is taught primarily in American universities. Until 2020, there had been a few mentions per year on Twitter of CRT, mostly around comments from students on course selection or academics organising a conference.¹⁹ Despite being taught in universities for many years, search interest on Google for the term was low until 2020. According to research produced by Novel Science, the amplification of CRT began with a few seed articles, including an article published on 13 July 2020 in the Daily Caller Foundation which was republished on multiple sites. On 15 July 2020, a Twitter user began a 'shocking-reveal style thread' on CRT and on 17 July 2020 a Telegram user called Vincent James posted the Twitter thread to his 37,000 subscribers.²⁰

The Russian Government backed English news site Russia Today (or RT) began posting on Twitter in August 2020 and Telegram shortly after. RT websites also began producing content and editorials on CRT. For example, an article published on 21 September 2020 is titled 'The Orwellian indoctrination of kindergarteners with Critical Race Theory is outrageous and must be stopped'. This content appears to have amplified the conversation, which was then picked up by other commentators and right leaning sites.

¹⁶ Claire Wardle and Hossein Derakhshan, Information Disorder: Toward an interdisciplinary framework for research and policy making (Council of Europe, 27 September 2017) <u>https://edoc.coe.int/en/media/7495-information-</u> <u>disorder-toward-an-interdisciplinary-framework-for-research-and-policy-making.html</u> 13.
¹⁷ Ibid.

¹⁸ Adam Alter, *Irresistible: The Rise of Addictive Technology and the Business of Keeping Us Hooked* (Penguin Group, 2018)

¹⁹ Novel Science. *Russia Amplifying Critical Race Theory. Iran, China Mum on the Subject* (June 24 2021) <u>https://novelscience.substack.com/p/russia-amplifying-critical-race-theory</u>.

²⁰ Ibid.

The debate around CRT that began in late 2020 appears to be an example of coordinated inauthentic behaviour, where content was produced to seed a campaign of disinformation promoted through social media platforms. There is evidence of the use of astroturfing tactics (the practice of creating fake or confected community or grassroots concern) and the use of bots to amplify the reach of social media messaging on the topic.²¹ In reading the train of RT articles, the Russian President Vladimir Putin is promoted as a defender of free speech and western civilisation, while CRT is painted as evidence of the decay of America.²²

The CRT debate eventually made its way to Australia through Fox News and affiliate Sky News channels and through social media threads connected to right wing groups operating in Australia.²³ CRT is not a concept that has been widely used in Australian framing of issues around structural racism and was previously not well known or discussed in Australia. However, the amplification of messaging to Australian users and infotainment consumers led to Senator Pauline Hanson introducing a Senate motion calling on the Federal Government to reject CRT from the Australian curriculum. The motion was passed on 21 June 2021.²⁴

While the debate around the use of foreign interference through social media has rightly focused on influence in the lead up to elections or on the capital riots, most campaigns are created to achieve less concrete goals. In the case of the CRT campaign, the aim appears to be both internal and external to Russia. CRT is used to showcase the strength of the Russian Government and Putin as a leader of freedom, while simultaneously inciting division within the USA, and by virtue of our connection to US media, within Australia. Further goals likely include reduced trust in institutions, such as public education, and increased pockets of sympathy towards Russia.

Disinformation in the Australian context

Within an Australian context vulnerability to disinformation is heightened by the size and diversity of our diaspora communities. In the 2016 Census 5.6 per cent of respondents identified as having Chinese ancestry with 509,555 born in China.²⁵ Indeed, between the 2011 Census and the 2016 Census the number of Australian-born Chinese increased by nearly 60 per cent.²⁶ During this period, platforms such as WeChat and Weibo have grown in use and are now the main source of information for a significant number of Chinese born Australians. More broadly, in-language articles and content on Australian based social media accounts and platforms has proliferated. Put another way, social media has led to the formation of informal micro peer-to-peer news networks within Australian diaspora communities. The effect of this is that the

²¹ Novel Science. *Russia Amplifying Critical Race Theory. Iran, China Mum on the Subject* (June 24 2021) https://novelscience.substack.com/p/russia-amplifying-critical-race-theory.

²² Content search on RT News performed on 4 November 2021.

²³ See, eg, Sky News, 'Critical race theory in schools is filling kids' head with "absolute rubbish": Hanson' <u>https://www.skynews.com.au/opinion/paul-murray/critical-race-theory-in-schools-is-filling-kids-heads-with-absolute-rubbish-hanson/video/cf02661ba118f8556ba50c83d91f1fbe;</u> Sky News, 'Critical race theory used to "justify criminal behaviour": Morrow' (20 June 2021) <u>https://www.skynews.com.au/opinion/critical-race-theory-used-to-justify-criminal-behaviour-morrow/video/3a2db758c7189d7009ea556969381ad2;</u> Sky News, 'Critical race theory is just "old fashioned racism" (7 July 2021) <u>https://www.skynews.com.au/opinion/andrew-bolt/critical-race-theory-is-just-old-fashioned-racism/video/6851a6c44282915a1dcba9cdf849e826</u>.

²⁴ Senate Journals, 46th Parliament, No. 103, Monday 21 June 2021 <u>https://parlinfo.aph.gov.au/parlInfo/search/display/display.w3p;query=Id%3A%22chamber%2Fjournals%2F2d8795</u> <u>9b-1344-4be9-ac2f-8d1e4075670a%2F0021%22</u>.

 ²⁵ Department of Home Affairs and Australian Bureau of Statistics, *China-born Community Information Summary* (2018) <u>https://www.homeaffairs.gov.au/mca/files/2016-cis-china.PDF</u>.
 ²⁶ Ibid.

decentralisation of information has been more pronounced for Australian migrant communities than for those born in Australia.

While disinformation tactics in the US and Europe have included fake accounts, the use of bots and astroturfing, a feature of disinformation campaigns within an Australian context has been in-language content creation. This is highly effective as it remains hidden and is difficult to combat. In-language content often picks up elements of factual news and distorts or represents information in order to not only sway opinion, but to undermine confidence around conventional or mainstream news institutions. The development of in-language disinformation tactics is concerning, and significant consideration needs to be given to strategies to combat such campaigns, particularly in the lead up to the next federal election. It is notable that some campaigns appear to combine in-language content creation with efforts to influence through the broader information ecosystems, such as infotainment channels and influencers.

In the lead up to the 2019 election, an in-language disinformation campaign circulated in Chinese on WeChat and Facebook. The campaign warned that if Labor won the election they would introduce an inheritance tax or 'death tax'. Memes and articles were promoted through private chat groups and peer-to-peer conversations. While it is difficult to ascertain the origin of the campaign, it appeared to be highly organised and sustained. As WeChat enables groups of up to 500 people to post content, the information ecosystem for Chinese Australians is largely hidden from public view. However, content is still widely understood to be censored and monitored by Chinese state authorities and Chinese Australians have had posts or accounts deleted. Outside groups, users can post on Moments and official accounts promote information and interpretations of Australian news. While official posts did eventually emerge describing the 'death tax' as fake news, the promotion of content through groups and through Facebook was highly effective and spread rapidly.

More recently, and particularly proceeding the announcement of the Aukus alliance, Russian influencers increased content creation in relation to Australia, promoting an image of Australia as a 'dictatorship' that must be stopped. As an example, Work and Life,²⁷ a YouTube channel with approximately 200,000 subscribers, hosts video series about Australia in Russian (and is promoted to Australian audiences). Each video has approximately half a million views.²⁸ Other YouTube channels in the US, Glogger from USA and Sanya in Florida, also refer to the Australian response to the COVID-19 pandemic, using footage of NSW Chief Health Officer Dr Kerry Chant saying the words 'new world order' and then proceeding to make claims that Australia is a 'testing ground' for this order.²⁹ They reference a claimed UN document 'New World Order', which has been proven to be fake by the International Fact Checking Network Georgia.³⁰

²⁷ Work and Life, YouTube Channel by Anton Beluyk,

https://www.youtube.com/c/%D0%90%D0%BD%D1%82%D0%BE%D0%BD%D0%91%D0%B5%D0%BB%D1%8E%D0 %BA%D0%A8%D0%BE%D1%83/videos.

²⁸ See, eg, «Из-за вакцинации началась жесть а Австралии! Страшная Правда о том что нас ждет этой зимой», (Translation: "Hardcore vaccination regime in Australia! The terrifying truth about what awaits us this winter") *Work and Life* Youtube Video, 1 October 2021, <u>https://www.youtube.com/watch?v=Ic5PTxl8tSA.</u>

²⁹ See, eg, Они удаляют любую инфу о Австралии ! Фейсбук удаляет тех кто говорит о Австралии !//Америка CШA (Translation: 'They are deleting all the information about Australia! Facebook deletes those who speak up about Australia!// America USA'), YouTube video, *Gloger from USA*, <u>https://www.youtube.com/watch?v=-</u> <u>bYBoswRVGQ</u>; 'Австралия ПАЛА!' (Translation: 'Australia has fallen!') *Sanya in Florida* YouTube Video, 18 October 2021 https://www.youtube.com/watch?v=wZCbJzxYOeo.

³⁰ FALSE: The UN has developed a secret document about the New World Order, 8 October 2020, International Fact Checker Network, Georgia <u>https://www.poynter.org/?ifcn_misinformation=the-un-has-developed-a-secret-document-about-the-new-world-order.</u>

Following Russian content, Fox News hosted an episode with Tucker Clarkson, where regulations in Australia were compared to the political regime in the People's Republic of China.³¹ This illustrates the sophistication of disinformation tactics as amplified through the ecosystem of social media.

Psychology of disinformation

A key focus of the Centre for Digital Wellbeing is understanding the psychological factors that encourage social media usage and the human factors that enable algorithms to shape and influence our behaviour and attitudes. It is of note that the tools social media companies employ to gain and keep our attention work in a similar vein to the underlying tactics that disinformation campaigns seek to employ. As disinformation is often provocative or sensational, it can often work to galvanise a group or build a network of discontent.³² Disinformation campaigns often work to simplify complex problems and can be framed to provide consumers of content with a belief that they are exposing previously hidden truths.³³ This can work to validate the user's identity and can create a sense of belonging to an exclusive group with inside information. Small group affirmation fulfils a deep human need to experience acceptance and belonging.³⁴

Social media works to amplify status seeking behaviours and to promote identity projection. In doing so, social media motivates people to engage with and share content. Content that is emotive and plays to underlying concerns or fears is therefore more likely to be shared and viewed. A key tactic used by foreign actors is amalgamation or amplification. This is an action whereby key influencers latch on to existing sentiments and feed or amplify issues. The tactic is highly effective in exacerbating existing social divisions that may be present. In building on the need for belonging, disinformation campaigns often offer complete solutions or accounts, enabling cognitive closure. An example of a disinformation campaign in this vein is QAnon. QAnon offers a definitive explanation to combat uncertainty and to explain complex global outcomes.³⁵ There is a substantial body of research demonstrating human preferences for cognitive closure and clear-cut definitive answers.³⁶

Equally, literature has identified a strong human preference towards information that confirms existing bias and beliefs.³⁷ Confirmation bias leads us to not only preference, but seek out information that confirms our existing assumptions and ideas. Information that is highly sensational or likely fake but confirms our views will often be given preference over content that is factual but counter to our beliefs. In working to incite division, disinformation campaigns can work within existing echo chambers to amplify views. Confirmation bias makes disinformation especially resonant and particularly difficult to debunk. Emerging research suggests that pre-warning or

³¹ Fox News, 'Tucker: Draconian COVID policies in Australia may be coming to the United States' (1 October 2021) <u>https://www.foxnews.com/opinion/tucker-draconian-covid-policies-austrailia-the-united-states.</u>

³² Carl Alviani, 'The Science Behind Storytelling' (Medium, 11 October 2018) <u>https://medium.com/the-protagonist/the-science-behind-storytelling-51169758b22c</u>.

³³ Christina Nemr and William Gangware, *Weapons of Mass Destruction: Foreign State-Sponsored Disinformation in the Digital Age* (March 2019) <u>https://www.park-advisors.com/disinforeport</u> 6.

³⁴ William von Hippel, *The Social Leap: The New Evolutionary Science of Who We Are, Where We Come From, and What Makes Us Happy* ((HarperCollins Publishers Inc, 2018).

³⁵ Brett Forrest, 'What is QAnon? What We Know About the Conspiracy-Theory Group' (The Wall Street Journal, 4 February 2021) <u>https://www.wsj.com/articles/what-is-qanon-what-we-know-about-the-conspiracy-theory-11597694801</u>.

³⁶ Maria Konnikova, 'Why We Need Answers' (The New Yorker, 30 April 2013) https://www.newyorker.com/tech/annals-of-technology/why-we-need-answers.

³⁷ Raymond S Nickerson, 'Confirmation Bias: A Ubiquitous Phenomenon in Many Guides' (1998) *Review of General Psychology* <u>https://journals.sagepub.com/doi/10.1037/1089-2680.2.2.175</u>.

debunking piece by piece can be more effective than presenting counterfactuals.³⁸ However, further research into methods and strategies to combat disinformation is needed.

Conclusion

Social media and the development of echo chambers and the decentralisation of information have provided the perfect setting for the promotion of disinformation campaigns. Globally, foreign actors have become increasingly bold in attempts to exploit the design features of social media platforms to polarise, destabilise and influence public opinion.

As social media allows foreign actors to communicate directly with Australia's citizens and residents, the use of emotional and sensational content can be used to recruit Australians to promote and amplify messages, often without their knowledge or consent. Features of social media such as the capacity to remain anonymous and distribute information quickly and widely make foreign interference on social media more difficult to contain, while the creation of inlanguage content can be difficult to identify and address.

In the age of decentralised information flows, disinformation is increasingly being used by foreign state actors to achieve multiple aims, from promoting positive views of the state in question to undermining trust in institutions, promoting violence or seeding division. Social media has opened new opportunities for foreign actors to undermine Australia's institutions and combating such tactics requires a whole of community approach.

There are approximately 4.55 billion social media users globally as of October 2021.³⁹ Facebook is the most actively used platform, with 2.895 billion monthly users in July 2021, and 1.908 billion people using Facebook each day.⁴⁰ Every second, approximately 6000 tweets are sent on Twitter, which adds up to 500 million tweets per day, and around 200 billion tweets per year.⁴¹ This is a significant increase from 5000 tweets per day in 2007.⁴² Disinformation increasingly works within pockets of the internet, targeting groups and promoting tailored content. The scale of social media content is overwhelming making it increasingly difficult for governments to identify and combat campaigns. We would welcome further resources for this area and recommend consideration is given to an office for disinformation and education and awareness raising strategies.

³⁸ Christina Nemr and William Gangware, *Weapons of Mass Destruction: Foreign State-Sponsored Disinformation in the Digital Age* (March 2019) <u>https://www.park-advisors.com/disinforeport</u> 13.

³⁹ Global Social Media Stat. Kepios (October 2021) <u>https://datareportal.com/social-media-users</u>.

⁴⁰ Facebook Stats and Trends. Kemp, Simon. (23 August 2021) <u>https://datareportal.com/essential-facebook-stats</u>

⁴¹ 'Twitter Usage Statistics', Internet Live Stats <u>https://www.internetlivestats.com/twitter-statistics/</u>

⁴² Measuring Tweets. Weil, Kevin. (February 22, 2010) <u>https://blog.twitter.com/official/en_us/a/2010/measuring-tweets.html</u>.