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THE MARKET OF DISINFORMATION

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0 EXECUTIVE SUMMARY

The 2016 US elections continue to cast a long shadow over democratic processes around the world. More than 40 countries are pondering legislative responses (Bradshaw, Neudert, & Howard, 2018). Meanwhile, the tech platforms have made more than 125 announcements describing how, through self-regulation, they will solve the manipulation of their platforms by bad actors (Taylor, Walsh, & Bradshaw, 2018).

Among the more frequently referenced self-regulatory measures are changes to algorithms and the use of artificial intelligence (AI) to demote disinformation and junk news. We ask whether these changes took place, and if so, have they had the intended impact of reducing the spread of disinformation on social media platforms? To date, much of the policy debate has focused on paid-for advertising on the platforms, but what about the viral spread of unpaid, organic content?

The 'black box' nature of today's most widely used platforms makes it difficult for researchers and journalists to understand how algorithmic changes might be affecting both legitimate political campaigning and disinformation. It is essential that any reform of electoral regulation or oversight in the UK is informed by an understanding of the techniques used in both the paid and the unpaid markets of disinformation.

The digital marketing industry can offer insights, albeit incomplete and heuristic in nature, into the impact of algorithmic changes. Social media marketing and search engine optimization (SEO) – that is, the practice of guessing, testing, and experimenting with algorithms so that searches for particular words appear higher in search results – are part of a multi-billion-dollar industry built upon understanding how these obscure technical systems rank, order, sort, and prioritize information. By interviewing professionals and reviewing reports from the digital marketing industry, we can gain insight into the impact that algorithmic changes might have had on the distribution of content online. The findings provide an additional evidence base that can inform the Oxford Technology and Elections Commission's project to identify potential regulatory reform of elections. We found the following:

- Despite more than 125 announcements over a three-year period, the algorithmic changes made by platforms have not significantly altered digital marketing strategies. Since the producers of disinformation often rely on the same strategies as digital marketers to improve their reach and generate engagement with content, we suggest that the algorithmic changes made by the platforms have been inadequate to curb the spread of low-quality content online.

- The biggest change highlighted by digital marketing experts is the significant decline in reach of organic content, specifically for traditional consumer products. Brands and companies have to spend more on digital advertising to

reach audiences on social media. This change has resulted in the prioritization of paid content and reflects the increase seen in platforms' profits since 2016.

- Unlike traditional consumer products, which rely on paid advertising, electoral campaigns can still generate a significant amount of organic engagement. Political campaigns are likely to adopt strategies which blend both paid and organic material to maximize reach while minimizing spend. Although Facebook has altered its algorithms to prioritize content it considers meaningful, these changes continue to reinforce sensationalized, negative, and polarizing content – content that is at the heart of disinformation.

- Following revelations about Cambridge Analytica's targeting techniques, there has been a shift in growing audience reach that combines online and offline data. Rather than relying on the platforms to identify and target audiences, more sophisticated strategies build audience profiles using offline data and then turn to social media platforms to access users who are targeted based on a pre-defined psychological profile.

In the absence of law reform by Parliament and Government, electoral regulators are adopting a cautious approach, anxious not to overstep their remit. At the same time, some campaigners are more creative with their interpretation of the law. Hope that the social media companies would solve platform problems by algorithmic tweaking has failed to achieve the promised public policy benefit of improving the quality of the information ecosystem. Instead, it has succeeded in achieving higher profits for the platforms by reducing organic reach and increasing the amount of paid content required by advertisers to reach new audiences. Unless action is taken, political campaigners will continue to explore and exploit the boundaries of acceptable behaviour in future UK elections.

True reform to primary legislation requires the involvement of Parliament and the Government. However, in the absence of legislative reform, progress can be made in the area of electoral 'practice' (Electoral Commission, 2019b) and a willingness by the UKEC to take a bolder approach where legislation is ambiguous. Based on our expert interviews and our understanding of how disinformation can 'game' algorithms, we make the following recommendations for the role of the UK Electoral Commission (UKEC) to reflect the realities of modern digital campaigning.

0.1   Recommendations

1. The UKEC should focus on developing and implementing official guidance related to the top four recommendations already identified in its reports:

    o digital imprints
    o sanctions
    o financial reporting and campaign spend

o foreign interference and location verification.

2. The UKEC should create a database of official registered campaigner social media accounts to support fact-checking and raise public awareness of official campaigners and their campaign material. Initially, this could be a voluntary measure for campaigns and their officials to encourage positive behaviour, support fact-checking initiatives, enable platforms' initiatives to counter disinformation, and provide better oversight of accounts and content during election cycles.

3. All digital content (both advertising and organic) from registered campaigners should be treated as any other campaign material and should be imprinted and included in the reporting of campaign finances and materials.

4. Sanctions should be updated for a digital age. This should include increasing the maximum fine as a percentage of total campaign spend or financing and increasing the maximum sentence for serious cases as well as innovative sanctions aimed at the heart of digital campaigning – data, targeting, and long-life content.

5. Financial reporting and spending limits should be updated and fit for purpose. This should include the need for clear guidance on digital spend reporting as well as reconsideration of the lower spending limits for reported costs. Updates to financial reporting and spending limits need to take the following into account:

o the relatively inexpensive cost of online advertising and extensive use of digital marketing techniques to extend the organic reach of content
o the offline costs associated with digital campaigning
o the long life and potential second life of digital content
o the appropriateness of the current regulated period for digital content.

6. The UKEC should consider incentive structures to promote what it considers to be appropriate use of data and online platforms. This may include voluntary disclosure policies and exemption from particular sanctions. It could also focus on positive actions such as voluntary registration of campaigns' official social media accounts as discussed in Recommendation 2.

7. The UKEC and the UK government should consider formal mechanisms for cooperation with other electoral oversight bodies in Europe and other like-minded nations, such as Commonwealth and Five Eyes nations, to promote information sharing, including information concerning the evolution of disinformation and the misuse of online platforms by bad actors, successful remedies, and observed trends.

8. The UKEC and the UK government should have the power to inform the public and publish data in real time (i.e., during election cycles) in exceptional

circumstances where there is evidence of significant foreign activities that are likely to undermine the integrity of UK elections.

1 INTRODUCTION

The role of social media in enabling popular uprisings in the Middle East and North Africa during 2011 captured the imagination of Western academics and commentators. Social media was celebrated as a new, public commons which would contribute to the flourishing of democracy (Howard & Hussain, 2011). By 2016, the excitement had worn off, replaced by concerns about the impact of social media on the integrity of elections and the erosion of public trust in traditional media and democratic institutions (Woolley & Howard, 2016).

These concerns have led to greater scrutiny of how social media and search algorithms rank, sort, and deliver information about politics to users. Social media companies have become *de facto* institutions for democracy, and their business models and algorithms the structure in which democracy plays out (Kreiss & Barrett, 2019). Yet there remains little transparency or accountability regarding or oversight into the ways in which these complex technical systems make decisions that affect democratic processes.

Governments around the world are looking to regulate social media platforms with the aim of curbing online harms and disinformation (Bradshaw et al., 2018). Meanwhile, the tech platforms have announced self-regulatory measures with the same aims, a key focus being adjustments to how their algorithms and artificial intelligence (AI) rank and deliver content to users (Taylor et al., 2018). The platforms claim to combat disinformation by algorithmically increasing 'meaningful engagement' and reducing the reach of 'poor quality journalism' and 'spam' (Taylor et al., 2018). However, the way that the algorithms and AI work, their code, and even the changes that have been made are shrouded by trade secrecy (Pasquale, 2015). Independent researchers have struggled to gain access to objective information on the impact of algorithmic changes on the proliferation of disinformation and other forms of low-quality information online.

To bridge this gap, we attempt to piece together the evidence through the lens of digital marketing, an industry whose raison d'être is to understand and advise clients on the impact of algorithmic changes in the online environment. Through a mix of desk-based research and interviews, this study tests the extent to which the digital marketing environment can cast light on the impact of social media platforms' algorithmic changes on the spread of disinformation and political campaigns. We look specifically at two of the largest platforms for news discovery and conversations about politics: Facebook's News Feed and Google Search. Both were a primary focus of previous disinformation campaigns, and they account for 52% of a US$110bn annual digital marketing spend (Barthel, 2018).

Drawing on interviews with nine experts spanning the private (search engine optimization, social media marketing), public (government, electoral officials, and political parties), and civil society sectors, we ask how, if at all, have the algorithmic

changes announced by social media platforms impacted the spread of disinformation online? We found that the platforms had made a smaller number of algorithmic changes than the announcements implied and that the impact of changes on suppressing disinformation or promoting meaningful engagements was short-lived. While paid content matters for traditional consumer products, organic engagement remains the bread and butter of political campaigning. The algorithmic changes made by Facebook to promote 'meaningful engagements' raise serious questions about what meaningful democratic engagement would look like. And the massive amounts of data being collected – both online and offline – remain a critical challenge that needs to be addressed through thoughtful legislation.

This paper proceeds as follows. First, we explore the underlying politics of and changes to the algorithms of online platforms over the past three years. Next, we outline the current landscape of the United Kingdom's (UK) electoral law. Taking into consideration knowledge gained regarding platform algorithms and business models alongside reports by the UK Electoral Commission (UKEC) and the Department of Digital, Culture, Media and Sport's (DCMS) Fake News and Disinformation Inquiry, we develop eight recommendations to enable the UKEC to respond to online disinformation and foreign manipulation more effectively and efficiently.

2 THE POLITICS OF ALGORITHMS

2.1   Overview: What are Algorithms?

Algorithms are 'calculations coded in computer software' (Pasquale, 2015). Despite the hype around machine learning and AI, algorithms are not inherently fair, infallible, and free from bias, nor do they possess god-like omniscience. Algorithms are 'opinions embedded in mathematics' (O'Neil, 2016), reflecting the frailties and worldview of the humans who wrote the code. In the context of the large tech platforms, the power of algorithms arises from the enormous data sets on which the mathematical code is trained (Mayer-Schonberger & Ramge, 2018). The ways in which algorithms directly govern the flow of news and information, make inferences from big data sets to determine users' preferences, and deliver micro-targeted messages raise several critical public interest issues.

Algorithms are used in a variety of web-based platforms – including search engines, social networks, and streaming services – as well as in other social systems like credit scoring, insurance coverage, job recruitment, and even college applications. Online, search engine algorithms answer user queries such as where to find the closest ATM or who was the lead actor in the latest Netflix hit. Algorithms in social networks, like Facebook, make decisions about which of our friends we see updates from on our News Feed. And content delivery systems – like Amazon or Spotify – recommend content or products to users based on their buying or viewing habits.

Although the algorithms' seemingly technical decisions can benefit users by helping them find relevant information or new products to buy, these decisions are not neutral (Gillespie, 2012; Taylor, 2016). The complex mathematical formulae behind algorithms embed bias and assumptions that have implications for a wide range of public interest issues, including freedom of speech, access to information, competition policy, intellectual property rights, and national security (Eubanks, 2018; Introna & Nissenbaum, 2000; Noble, 2018). By directly shaping what counts as high-quality, professional, or relevant news, algorithms educate citizenry and mediate their news consumption habits (Dubois & Blank, 2018; Flaxman, Goel, & Rao, 2016). They also influence public action (or inaction) through affordances that allow users to donate to a campaign, give their time as volunteers, sign a petition, or share 'get out to vote' messages (Bond et al., 2012; Manson, 2019; Social media expert B, 2019). In an increasingly saturated information environment, algorithms determine whose voices get heard. If these systems were to be misused or exploited, algorithms and AI could make visible – or even amplify – conspiracy, fear, hate, or propaganda to voters.

2.2   Algorithms, Optimization, Elections, and Democracy

Since 2016, there have been growing concerns that the design and business models underpinning major social media platforms have been manipulated by bad actors to

spread disinformation and computational propaganda to voters in the lead-up to elections around the world. A variety of actors have exploited social media platforms to spread junk news and political propaganda to citizens in order to foment distrust in the media, democratic institutions, political leaders, and local communities (Bradshaw & Howard, 2018; Marwick & Lewis, 2017). While some high-profile cases have demonstrated the ways in which foreign agents have deliberately gamed social media to amplify disinformation during presidential campaigns or important political referenda (US Department of Justice, 2018), it is important to recognize that these strategies are not new. For as long as algorithms have existed, a variety of actors – both legitimate and nefarious – have tried to understand these systems and optimize content for them (Metaxas, 2010).

Algorithmic manipulation on the Internet began in the 1990s with the advent of the search engine. Prior to their introduction, anyone who wished to find content online would have to navigate 'cluttered portals, garish ads and spam galore' (Pasquale, 2015). This didn't matter in the early days of the web when it remained small and easy to navigate. During this time, web directories were built and maintained by humans, who often categorized pages according to their characteristics. By the mid-1990s it became clear that this classification system would not be able to scale. Early search engines such as Altavista and Lycos were hit and miss, rarely identifying information relevant to the search query. Google's search engine, first launched in 1998, brought order to chaos by offering a clean and seamless interface to deliver relevant content to users through its PageRank algorithm, which prioritizes content based on the popularity and reputation of a web page, its domain name, and an estimated 200 proprietary ranking factors (Dean, 2019).

As search engines became fundamental to structuring how people find information on the World Wide Web – an open, distributed system, with no one in charge – different actors have tried to game these systems for political or economic gain. As algorithms have become embedded in other digital technologies, especially the closed, proprietary social media platforms, so the techniques used to game them have also evolved. Today, many legitimate companies and individuals hire SEO and digital marketing experts to improve the visibility of their online content (Metaxa-Kakavouli & Torres-Echeverry, 2017). However, these strategies can pose a greater risk when used to amplify the spread, reach, and discoverability of junk news and other political propaganda (Bradshaw, 2019).

The algorithms supporting digital platforms are dynamic and constantly changing. Thus, SEO strategies also need to evolve constantly to remain relevant ('Google algorithm updates & changes', 2019). Many of the algorithmic updates are minor and are used to improve the speed or performance of the system. Major algorithmic changes can have dramatic effects on campaigners' and advertisers' business models. For example, the first major downgrade in organic reach for Pages on Facebook was noted in 2014, making company and community pages rely more heavily on paid content and increasing revenue for Facebook (Manson, 2019).

Since 2016, Facebook and Google have both announced major algorithmic changes in order to downgrade the reach and visibility of junk news and political propaganda on their platforms. Subsections 2.2.1 and 2.2.2 of this paper describe their digital marketing strategies. Drawing on interview data and published materials from the digital marketing industry, we discuss how these strategies have changed over time in light of the algorithmic changes announced by the two major companies.

2.2.1 Google Search

There is a long history of search engine optimization being used to enhance the discoverability of content for political or economic purposes (Metaxas 2012). Recent research shows that there is growing evidence of search engines like Google being exploited by junk news, hyper-partisan media, foreign agents, conspiracy theorists, clickbaiters, and hate groups to amplify the spread of disinformation (Bradshaw, 2019). This is in part due to the way in which people find news (e.g., via a search) and also in part due to the techno-commercial infrastructure that makes junk news a lucrative business (Bradshaw, 2019). Some scholars have demonstrated how distorted search results can lead to bias, distort public perceptions, and amplify mis- or disinformation (Pasquale 2015; Nobel 2018' Eubanks 2018).

Google's search engine algorithm works by crawling the web to gather information about online web pages. Data about the words on a web page, backlinks, the time spent on a page, the bounce rate (i.e., how many pages on the site a user visits), the use of images and videos or the pages they link to are organized into an index by an algorithm, which is analogous to an index found at the end of a book. When a user types a query into Google Search, machine-learning algorithms will apply complex statistical models in order to deliver the most 'relevant' and 'important' information to a user (Gillespie, 2012). These models are based on a combination of signals that include the words used in a specific query, the relevance and usability of web pages, the expertise of sources, and other information about context, such as a user's geographic location and settings (Google, 2019).

The digital marketing industry exists to help clients second-guess and game the Google algorithms. Hundreds of SEO experts (see Dean 2019 for example) have published guesses about the different ranking factors these algorithms consider, including the following:

- domain factors: age of a website, keywords that appear in the domain, the longevity of a domain registration, and even public WHOIS data

- page-level factors: density of keywords and semantically related words on a specific title page, presence of second title tag, length of the content, the page loading speed, frequency of page updates, and mobile usability

- site-level factors: having a contact-us page, an SSL certificate, and terms of service or privacy pages

- PageRank factors: links from highly reputable sources, links from Wikipedia, or the age of the link, and

- user interactions: amount of traffic to web page, organic clicks by a user, repeat visitors, bookmarked pages, time on page, and user comments.

The specific signals that inform Google's search engine algorithms are dynamic and constantly adapting. Google makes thousands of changes to its algorithm every year to adjust the weight and importance of various signals. While most of these changes are minor updates designed to improve the speed and performance of Search, sometimes Google makes more significant changes to its algorithm to elude optimizers trying to game the system.

Since 2016, Google has made several changes to Search in order to combat the spread of disinformation. These changes include a major change detected in March 2017, nicknamed 'Fred', which downgraded low-quality content, aggressive advertising, and poor user experience (Schachinger, 2017), as well as ranking reputable sources much more highly than information coming from websites that have not built up a very strong reputation.

Our expert interviewees confirmed the algorithmic changes noted by the industry. One expert discussed a notable difference in the ability to find 'older' content compared with a few years prior – in essence, quality is linked to 'freshness' (York, 2019). One study has audited the changes Google made to Search between 2016 and 2019. It found that low-quality news sources saw a significant drop in performance after these algorithmic changes were announced (Bradshaw, 2019). However, the changes from 'Fred' onward represent incremental adjustments consistent with Google's long-established aim to downgrade the visibility of poor-quality content. Unlike other major changes – such as 'Mobilegeddon', the update to prioritize mobile-friendly content which required website owners to rearchitect their entire site to maintain their ranking (Anderson, 2017) – 'Fred' made minor and incremental tweaks to prioritize high-quality information.

Bradshaw also noted that websites affected by 'Fred' and subsequent incremental updates are already adjusting their SEO strategies to accommodate the changes made to Search, highlighting the start of a rise in reach beginning in 2019 (Bradshaw, 2019). This parallels observations in the digital marketing literature and those of our experts, who told us that the algorithms of Google and Facebook reward known entities. In other words, sites or content that achieved a 'good' ranking but then fell off will find it easier to regain their standing than a new website, which must build its history from scratch (Social media expert B, 2019; York, 2019).

2.2.2 Facebook News Feed

Like Google, Facebook is one of the most-used applications on the Internet. Around the world, Facebook has more than 2.4 billion users, which is larger than the

population of any single state or any self-identified group of people (including those who identify as Christian or Muslim) (Facebook Newroom, 2019). It is also an important source of news and information about politics. Pew Research found that 66% of Facebook users were getting their news from the platform (Gottfried & Shearer, 2016). In many countries where Internet access remains poor, Facebook is often the *de facto* Internet and platform through which people connect with information and each other (Kaye, 2019, 114). Given its significance globally, it is important to examine Facebook's News Feed.

Facebook's News Feed algorithm works by sorting, organizing, ranking, and prioritizing posts that can be displayed on a user's News Feed. Rather than producing a chronological feed of posts from friends, family members, groups, or pages, the News Feed algorithm decides what content appears on a user's feed and in what order – and although users can opt in for a chronological feed now, the default setting is algorithmically generated. It combines signals with predictions (how people use Facebook, what kind of content they like to consume) to give a score to a piece of content that will determine its relevance to a particular user. The higher the score the more likely it is to appear in the feed. This is why different people see different things on Facebook.

There is a growing public discussion about the impact Facebook's News Feed has on public debate. Some scholars have highlighted how the attention economics (Williams 2018, Wu 2018) that power these complex technical systems prioritize content that, as Tufecki (2018) argues, feed the human appetite like 'salt, sugar and fat'. These 'addiction technologies' optimize content to hold users' attention and 'get them hooked' (Alter, 2017), which has implications for the kinds of content that generate engagement online.

As with Google Search, the digital marketing industry has published numerous heuristic reports about the signals through which News Feed ranks content. These signals are specific to the Facebook platform and the unique function of News Feed. They include the average time a user spends on a particular piece of content, the number of likes, comments, or interactions a post receives, and who posted the information and whether or not their profile is complete (Tien, 2018). The kind of content that is shared is important too, with images and native Facebook videos and stories being prioritized over other kinds of media (Tien, 2018).

Since 2016, Facebook has faced a large amount of public and academic scrutiny of its role in amplifying disinformation and foreign influence operations. Since then, it has announced several algorithmic changes to combat these challenges. According to Facebook, the major change it has made to its algorithm has been to promote 'meaningful interactions' among users (Facebook Newsroom, 2018). Meaningful interactions include content that is shared over one of Facebook's private messaging apps, Messenger, content that generates comments and replies, and engagement with a post shared by a friend.

In addition to placing greater weight on the signals of meaningful interactions, Facebook downgraded several signals to limit the spread of content that tries to game its algorithm (Silverman & Huang, 2017). This includes content that tries to generate engagement by encouraging votes (i.e., click 'like' if you support the Toronto Raptors and click 'love' if you support the Golden State Warriors), reactions (click 'like' if you're a Sagittarius), shares (share to win a holiday to the Maldives), tags (tag a friend who looks like this), or comments (comment 'yes' if you love cats).

However, these strategies bring opacity and their own set of difficulties. The platform's incentives can have perverse consequences. So, by keeping content native to Facebook, a poster can improve their reputation and score well for 'meaningful interactions', even if the content itself is eventually downgraded due to active complaints by users (Manson, 2019; NewsWhip, 2018; Social media expert B, 2019). While there is an abundance of online advice about how to increase organic reach on Facebook (Ali 2019), there is little information about how the algorithms choose the 'next' audience when content has been flagged as worthy for growth in reach. The digital marketing literature reports that average organic engagement fell from eight shares to just four shares or fewer per post following Facebook's algorithmic changes in January 2018 (Rayson, 2018). By the end of the year, performance was recovering, and some top viral Pages (such as Lad Bible and Unilad) were achieving greater reach than before the algorithmic changes took place (NewsWhip, 2018). NewsWhip's report also showed that the reach of some sites either remained the same (e.g., Elite Daily) or declined (e.g., Bored Panda, Clickhole, and Simple Most). This highlights that the ability to 'game' the algorithm is reliant on a variety of factors and knowledge. A known strategy developed by digital marketers, particularly for paid content via tools like Custom Audiences, includes aiming content at an audience which is not the intended audience but one that will first create reach for their content. That first audience is selected because it will likely have a strong reaction to the post – either negative or positive. This will create 'engagement' through comments or shares. Then, after the 'reach' has been built up by audience number one, the target audience will be switched to the 'true' audience (Social media expert B, 2019).

Facebook also announced major changes to the News Feed algorithm (Mosseri, 2018) to prioritize information that is considered to be:

- trustworthy, as determined by a survey of Facebook users in the United States
- informative, as determined by a user's previous behaviours and data, and
- local, which is content from a local news source.

Despite the importance of Facebook's News Feed in delivering politically relevant content to users, few if any studies have audited whether Facebook's responses have had an effect on the spread of disinformation on its platform. One study has suggested that the engineering 'fixes' implemented by platforms are insufficient to

address large-scale social problems and could instead exacerbate existing problems (Tromble & McGregor 2019). Our market-based research supports this finding.

2.3 Methods and Analysis of Platforms' Algorithmic Changes Post-2016

How have social media algorithms changed since the 2016 US elections? We reviewed reports from the digital marketing industry and interviewed four digital marketing experts to assess whether or not their strategies have changed. Since electoral campaigns use the same digital marketing strategies to generate reach and engagement on social media, the digital marketing industry can provide heuristic insights into how algorithmic changes might have impacted campaigning strategies post-2016. Based on our investigations, we describe three key findings:

- Platforms' algorithmic changes have not led to significant changes in SEO
- The Cambridge Analytica effect
- Organic engagement remains key for election campaigns.

2.3.1 Algorithmic Changes Have Not Led to Significant SEO Changes

Despite more than 125 announcements by the platforms that were intended to combat the spread of disinformation, campaigners' SEO strategies have not significantly changed. While the digital marketing experts we interviewed described new strategies for improving the organic reach and engagement with marketing materials, they have not had to fundamentally change their strategies. In their eyes, this has been part of a natural evolution of their business (Manson, 2019; Social media expert A, 2019; Social media expert B, 2019; York, 2019). This is especially true for Google Search, where the aim is to rank on the first page, preferably above the fold, for popular search terms. If this can be achieved organically, it can reduce or eliminate advertising costs. The most important factors for organic ranking remain (1) enhancing a website's reputation (according to Google's ranking factors) and (2) developing fresh, keyword-rich content that finds gaps in the competitiveness of popular search terms. Just as they did before 2016, companies still spend time building their brand and reputation on Google. According to one participant, although it takes time and effort to build a reputation, once a site has achieved status – whether on Google or Facebook – it is less vulnerable to being algorithmically downgraded (Social media expert B, 2019; York, 2019). This may help to explain why it is alleged that the Russian Internet Research Agency began to build Facebook followers two years prior to the US presidential elections (Grand Jury for the District of Columbia, 2018). The only change marketers have had to make is to refresh the keywords on old content to improve its ranking, as older sources are not ranked as highly as newer ones (York, 2019).

The algorithmic changes in Facebook's News Feed have forced marketers to evolve more sophisticated strategies for generating reach. Digital marketing professionals interviewed for this study described a two-step process, using two distinct audiences

(A and B). First, content is created that will spark a negative reaction among audience A. The aim is to get users commenting or sharing the link through Messenger. Once the engagement on that piece of content picks up among audience A, it is then targeted towards the desired audience, audience B (Social media expert B, 2019). Since the content has generated reputation through engagement with audience A, it will have greater reach once targeted towards the real target, audience B. Digital marketers have already worked out how to exploit the meaningful engagement algorithm by creating content that arouses negative feelings and generates negative engagement. A perverse consequence of the algorithmic change is that by playing into the conflict–reward dichotomy which has emerged on social media, it contributes to the erosion of middle-ground discourse and the increased polarization of politics.

2.3.2 The Cambridge Analytica Effect

Another perverse consequence of the algorithmic changes is that Cambridge Analytica's notoriety (and Facebook's reaction to it) has inspired digital marketers to adopt the company's techniques. Custom audiences are constructed by aggregating data sets *outside* social media platforms (see Collins 2019). Like a digital sourdough starter, these offline profiles are then used to train the platforms' targeting algorithms to identify lookalike groups, metastasizing the reach of specific messages to individuals who will be susceptible to them. We call this the Cambridge Analytica Effect. It resonates with Arron Banks and Andy Wigmore's description of their tactics in their otherwise unreliable testimony to the DCMS Inquiry: 'My experience of social media is it is a firestorm. … Our skill was creating bush fires and then putting a big fan on and making the fan blow … We picked subjects and topics that we knew would fly' (Banks & Wigmore, 2018). While digital marketers relied on external data to create audiences before Cambridge Analytica, interviewees for this study indicated that use of such techniques had increased (Manson, 2019; Social media expert B, 2019). In particular, they noted the feedback loop between online and offline tools, advertising and political experts learning from each other's strategies, and the growth of intermediary markets responding to platform data lockdowns as well as new forms of publicly available data (e.g., ads transparency centres).

Platforms play an important role in shaping political communication around elections (Kreiss & McGregor, 2018). Our digital marketing experts agreed that there is no way to predict 'viral' content and that a more reliable technique is to test varied content against target audiences (Manson, 2019; Social media expert A, 2019; York, 2019). Brad Parscale, who managed the Trump social media campaign in 2016, describes A/B testing of different versions of ads each day with different photos, colours, and slogans ('60 Minutes' profiles the genius who won Trump's campaign: Facebook, 2017). The tactics blend paid-for advertising with techniques designed to increase engagement and therefore organic reach. This suggests that successful political campaigning requires an understanding of both to optimize engagement and reach while keeping advertising spend lower (*Trump's Facebook advertising advantage,*

explained, 2018). Christopher Wylie highlights that the conversion rates achieved by Cambridge Analytica were up to 10% in their digital advertising campaigns, against an industry average of 1–2%, indicating that paying attention to targeting audiences with tailored content is a key success factor of online campaigning (Wylie, 2018a).

Experts in our interviews were split on the idea of 'micro-targeting', with some calling it a 'myth' and others noting that although platforms have made micro-targeting more difficult, it is not hard to do, particularly with tools such as Facebook's Custom Audiences and third-party businesses aimed at improving micro-targeting (Manson, 2019; Social media expert A, 2019; Social media expert B, 2019; Taylor, 2016; York, 2019). In response to the Cambridge Analytica scandal in 2018, Facebook took steps to limit the sharing of the platform's data with third parties such as app developers, marketers, and academics. The digital market has worked around these restrictions by relying more heavily on offline data collection and analysis. New ad-transparency centres, introduced by the platforms to combat disinformation, are predicted to generate a new vulnerability. Without access to Facebook's locked data, a new industry of third-party scrapers could arise that could use the ad-transparency data to make inferences and sell these on to interested parties (Manson, 2019).

2.3.3 Organic Engagement Remains Key for Election Campaigns

Experts in electoral oversight and digital marketing agree that online political campaigns are more likely to rely on organic (non-paid) content than traditional product marketing (Former elections official, 2019; Social media expert B, 2019), for the following reasons:

- Political issues engage people's emotions
- It has an inherently large audience, relevant to a national or regional demographic
- Political campaigners have large networks of supporters
- The pressure of spending limits and regulated periods

The intersection of our research on algorithms and electoral regulation identified three overarching areas that have had little attention in the policy discourse. The following areas warrant additional inquiry and should be taken into consideration as the UKEC develops guidance or other regulatory measures:

- the difference between organic and paid content, particularly in a political environment;
- data collection and use; and
- the interplay between online and offline actions (what the authors call the Cambridge Analytica Effect).

Organic Content

The use of organic content must be better understood in order to improve electoral oversight. Although the marketing of consumer products requires more paid advertising, electoral campaigns still generate high levels of organic engagement (Manson, 2019; Social media expert A, 2019; Social media expert B, 2019) due to people's emotional responses to politics (including positive ones, but especially negative ones) and the deliberative nature of democracy. According to NewsWhip, 'political content is dominant on the web, making up more than a third of the most engaged posts' (NewsWhip, 2018).

Digital marketing experts are able to identify evolving strategies to game algorithms generally, but have had limited insights into the use of organic content in political environments specifically. The authors invited representatives of the main UK political parties, elected officials, and campaigners to participate in this study, but without success. The study coincided with the European elections and the build-up to a possible general election in the UK. Future research could incorporate interviews with these stakeholders and with others who routinely rely on organic techniques.

Insights gained from digital marketing experts and materials were valuable in highlighting how organic content can manipulate public opinion during election cycles, and these insights can inform the development of effective oversight mechanisms.

Content creators are rapidly learning how to manipulate the algorithms that suppress the reach of organic political content. Simply posting content regularly can rapidly build credibility (or 'rank') with platforms as a content creator. In turn, this influences the reach of their content in the future. Once 'rank' has been achieved, there is an opportunity to change the tone of that content to make it more extreme.

Algorithms such as Facebook's 'meaningful interactions' algorithm should in theory support greater deliberation about political issues among communities of users online. Yet hyper-partisan content and known disinformation websites continue to do well in rankings. For example, engagement in InfoWars' Facebook page was strong until it was banned from Facebook in July 2018 (NewsWhip, 2018). The algorithm continues to favour controversial content that provokes emotional reactions and engagement rather than balanced, in-depth articles by trusted news sources.

These facets highlight the importance of understanding the difference between paid and organic content on digital platforms and within a political environment. The authors support the DCMS Select Committee's call for research and thought into whether regulation of organic content is required and if so, how it should be done (Digital, Culture, Media and Sport Committee, 2019).

Data and its Use Online and Offline

The Information Commissioner's Office (ICO) and the DCMS Select Committee have addressed the complexities of 'inferred audiences' – the targeting of a group of people based on inferences made from data – and the Select Committee called for transparency of campaigners' commonly held data (Digital, Culture, Media and Sport Committee, 2019; Information Commissioner's Office, 2018). But the issues concerning data run deeper.

While campaigns have long used voter data to identify supporters and swing voters, the variety and volume of data now available to campaigners have significantly increased. Correlations, not hard facts, are used to target people on platforms and identify who receives what information – a particularly sensitive issue during election cycles.

Much of the data being used is collected and analysed offline with the inferences only then transferred to online environments like Google Ads. Future electoral policy and oversight should be informed by the fact that online and offline actions are necessarily linked, with the offline elements being key enablers of online uses and abuses. Effective guidance needs to be effects based rather than concerned with fetishizing particular platforms, technology, or techniques.

3 ELECTORAL POLICY IN A DIGITAL AGE

Effective oversight of elections is essential to protect the integrity of elections and fundamental freedoms, but it is a complex and sensitive undertaking. It is the role of Government and Parliament to amend or update the primary legislation, and they have done so on several occasions in the past 20 years. At present, election law is mainly focused on spending and funding. Law reform is needed to update the current framework to reflect the practices and risks associated with digital campaigning. While there are growing calls for reform (e.g. from the Law Commission, DCMS Select Committee and UKEC itself), it seems unlikely that legislation will be updated before the next general election.

In the UK, regulation of local and national elections is overseen by the UK Electoral Commission (UKEC). Its purpose is to ensure that political parties, campaigners, and candidates abide by electoral law. Digital advertising and organic posts are within the scope of the UKEC's powers, particularly through a financial lens. Other bodies such as the Information Commissioner's Office (ICO) and the Metropolitan Police also play oversight roles, for instance with regard to data misuse and criminal investigations, but the UKEC is the main focus for this section and its recommendations.

Within the UK, a variety of actors – from Russian operatives to political parties – have tried to exploit or game social media algorithms in order to spread mis- and disinformation about politics (Carrell, 2017, Expert 5 2019). These actions have exposed how poorly adapted the UK's electoral policy is for the digital environment.

The UKEC currently has no tools at its disposal to deal with how parties generate unpaid, organic engagement, which is key for running successful campaigns. At the same time, spending limits do not take into account the low cost of social media advertising. Other regulatory gaps include how to deal with content that was created prior to the regulatory period but is then repurposed or recirculated during campaigns; and how to cope with new business models and third-party actors (e.g., social media advertising portals and influencer experts) which can make or break political campaigns. The UKEC itself has called for the development of appropriate tools and guidance to facilitate real-time regulation of online spaces (Electoral Commission, 2016a). Such intervention would be inherently complex to implement. If adopted, appropriate safeguards would be needed to avoid damage to the regulator's neutrality and society's democratic values.

Meanwhile, where appropriate tools do exist, such as the ability to update the UKEC's guidance documents (explored later), regulators are not using them to their full potential.

The cornerstone of the UK's electoral regulation framework is transparent financial reporting (e.g., regarding donations, loans, campaign spend, and annual accounts) (Electoral Commission, n.d.-c). Research has shown that the reporting and sanctions

structure should be updated to be effective in a digital era. Sanctions include fines (ranging from £200 to £20,000), compliance notices (required actions to avoid future breaches), and up to two years' imprisonment (Electoral Commission 2016b; Law Commission et al., 2016). However, the ability of existing sanctions to act as a deterrent for questionable behaviour is debatable – for instance, sanctions can be applied after an entity has dissolved and some financial sanctions could represent an insignificant fraction of a campaign's operating cost.

With the online sphere increasingly acting as public commons, the potential for harm *during* and *post* electoral cycles is amplified. The following sections highlight areas where the UKEC can adapt its digital strategy to protect the integrity of elections in the age of social media.

3.1   New Guidance for New Campaigns

The electoral regulatory structure in the UK currently relies on reports submitted months after the vote and is heavily focused on financial matters. When investigations do arise, it is sometimes well after the electoral cycle, increasing the difficulty of holding organizations and individuals to account. However, a few changes to the UKEC's current working methods, such as requiring imprints on digital materials, updating the concept of a 'regulated period' for a digital era, and compiling a register of official social media accounts, could create more efficient electoral oversight. This section introduces foundational concepts to support the recommendations elaborated in the following sections.

The Electoral Commission and other bodies such as the ICO are not uniformed about these issues. The UKEC has published several reports since 2016, including the following, which were analysed for this study:

- *Report on the 23 June 2016 referendum on the UK's membership of the European Union* (2016a)
- *Report on the regulation of campaigners at the referendum on the UK's membership of the European Union held on 23 June 2016* (2017)
- *Report on an investigation in respect of the Leave.EU Group Limited* (2018b)
- *Digital campaigning: Increasing transparency for voters* (2018a)
- *Winter tracking research 2019* (BMG Research, 2019)

Other relevant oversight bodies and regulators' reports referenced in this study include the following:

- Law Commission, Scottish Law Commission, & Northern Ireland Law Commission, *Electoral law: Summary of interim report* (2016)
- ICO, *Investigation into the use of data analytics in political campaigns: A report to Parliament* (2018)
- House of Commons, DCMS Select Committee, *Disinformation and 'fake news': Final report* (2019)

After carrying out an international review, one interviewed expert found the UKEC to be the most informed organ of its type at the intersection of electoral process and social media (Human rights expert, 2019). However, a systemic change in UK electoral law is not likely in the near term due to the complex and partisan politics at play. There may be opportunities for regulatory tweaks where issues are less problematic or are a matter of ensuring consistency, for instance with imprints (Former elections official, 2019, p. 5). The reports of the UKEC, the DCMS, and the Law Commission all highlight the urgent need to improve understanding of how online spaces intersect with electoral policy. By building on and operationalizing this insight, the UKEC is well placed to improve its working relationships with other bodies, such as the ICO, and to publish updated guidance for campaigners.

The UKEC's ability to develop and publish guidance is an essential tool because guidance is quicker to produce and less prone to political interference than legislation (Former elections official, 2019). There can be an inherent difficulty in lawmakers enacting legislation in which they are both the subject and the object, particularly when debate takes place close to an election. Politicians and political parties are inextricably linked with the proposals they put forward, and the electoral 'winners' and 'losers' will have conflicting motivations for advocating change. By focusing on updated guidance (such as on digital imprints and reporting requirements) and enacting tools to support accountability (such as the social media account register) the UKEC would start a much-needed culture change, increase appropriate oversight for online campaigning, and influence future policy making if and when it occurs.

Finally, we highlight the importance of understanding the evolution of electoral oversight in an international context. With legislative inquiries across more than 40 countries, there is a growing awareness of the misuses of online platforms and the potential harms they can inflict on democracy (Bradshaw, et al., Forthcoming). The list of countries considering regulation or oversight includes seven European nations as well as Commonwealth and Five Eyes nations. These like-minded countries have shared values with the UK, including support for democracy and human rights. They also offer the potential for a crucial resource network through which to share experiences and refine efforts to protect democratic processes from disinformation or the abuse of online platforms.

3.2   Common Recommendations for the Digital Age

The five reports by the UKEC, the Law Commission, and the DCMS Select Committee reviewed for this study provide insight into how institutional thinking about technology and electoral cycles has developed in the UK. A review of the reports found 16 categories of recommendations directly applicable to online spaces (see Table 1). Recommendations on imprints on digital materials and the need to update fines and sanctions for the digital age are the most common.

Three reports recommend the need for updated reporting on campaign finances and addressing foreign interference through location verification of online content. More recent reports have highlighted falling public confidence in electoral processes, identifying as key drivers a lack of effective financial transparency and a lack of regulation of social media companies (BMG Research, 2019; Electoral Commission, 2016a). Adoption of the recommendations mentioned in this section by the UKEC may increase voter trust in election integrity because they address some of the electorate's misgivings.

The top four recommendations fall largely within the responsibility of campaigners and the UKEC. However, a number of recommendations (for example, digital imprints) will require coordination with the online platforms to ensure appropriate implementation and oversight. Some recommendations place responsibilities on platforms, although most will require guidance from or action by the UKEC. Unfortunately, a national regulator has limited ability to influence the tech companies to make voluntary changes to their global platforms, and substantial changes are not likely in the short term. This is another reason for the UK to develop a network of like-minded countries to pull resources and leverage the platforms.

This paper recommends that the UKEC should focus its resources on developing existing, well-researched recommendations on official campaign guidance that can be easily adopted locally and within the context of current electoral law. These include the top four:

- digital imprints
- sanctions
- financial reporting and campaign spend
- foreign interference and location verification.

3.2.1 Digital Imprint

Imprinting campaign material supports transparency for voters and the regulator. As algorithms upgrade or downgrade posts and content goes viral, having an imprint on campaign materials provides clarity as to its source, makes content creators accountable, and facilitates the reporting of costs and campaign materials to the UKEC. However, imprints are currently not required in all electoral cycles for all digital campaign materials, and the word 'appropriate' in the UKEC's report on regulation of campaigners leaves too much margin for self-serving interpretation (Electoral Commission, 2017).

Table 1. UK report recommendations by topic

Report 1: *Electoral law: Summary of interim report* (Law Commission et al., 2016)

Report 2: *Report on the 23 June 2016 referendum on the UK's membership of the European Union* (Electoral Commission, 2016a)

Report 3: *Report on the regulation of campaigners at the referendum on the UK's membership of the European Union on 23 June 2016* (Electoral Commission, 2017)

Report 4: *Digital campaigning: Increasing transparency for voters* (Electoral Commission, 2018)

Report 5: *Disinformation and 'fake news': Final report* (DCMS Select Committee, 2019)

Recommendation	Report 1	Report 2	Report 3	Report 4	Report 5	No.
Digital imprint	Yes		Yes	Yes	Yes	4
Increased fine/stronger sanctions	Yes		Yes	Yes	Yes	4
Financial reporting & campaign spend			Yes	Yes	Yes	3
Addressing foreign interference & location verification			Yes	Yes	Yes	3
Ads transparency centre (platforms)				Yes	Yes	2
Reporting & Transparency (platforms)				Yes	Yes	2
Public–private relationships				Yes	Yes	2
Regulated period				Yes	Yes	2
Shared responsibility & devolution				ICO, UK Statistics Authority	ICO, CMA, Ofcom	2
Campaigning			Yes		Yes	2
Change or increase in powers (UKEC)				Yes	Yes	2
Increased investigatory powers				Yes	Yes	2
Reporting & transparency (non-financial, campaigners)					Yes	1
Data					Yes	1
Business models					Yes	1
Organic content					Yes	1

The Scottish Independence Referendum Act 2013, which enabled the 2014 referendum, defined publication broadly – to extend beyond printed materials only and include online publication (Electoral Commission, 2017). However, this condition was not reflected in the primary legislation that enabled the 2016 referendum regarding the UK's membership of the European Union, allowing irregular application of digital content imprinting by campaigners and ambiguity around content origin and expenditure. This highlights a well-known problem of unequal and inconsistent electoral environments in the UK, with different guidance and processes for different electoral cycles (Law Commission et al., 2016).

Recommendations

Although not required under law, the UKEC has recommended imprinting online materials since 2003 (Electoral Commission, 2017). The recommendation is now overdue for inclusion in the guidance for each electoral cycle to ensure consistency in the type and sources of content to be imprinted. Both paid-for and organic campaign content should be included in the imprint requirements.

Electoral regulation already requires that campaign strategies, including information materials, be included in spending reports. This can cover expenditure associated with the creation of organic content (e.g. marketing expertise, strategy, design) but without a digital imprint requirement extending to organic content, it can be difficult for regulators to understand what the spending related to. Due to the widespread use of A/B content testing, it is suggested that the UKEC should also require the inclusion of variations of campaign materials (e.g., posts on the same topic that use slightly different language, colours, or images) and data associated with those materials (e.g., size and attributes of target audience, number of views/click-throughs, etc.). Although this may be resisted by campaigners, it would get to the heart of the source of online advantage in political campaigns and would provide invaluable insights into the use of online platforms and problematic issues such as micro-targeting.

3.2.2 Sanctions

Sanctions act as deterrents against breaking rules by making the potential benefit gained from rule breaking not worth the risk of incurring a fine or sentence. The maximum available sanctions are £20,000 per infraction or up to two years' imprisonment (Electoral Commission, n.d.-a; Law Commission et al., 2016). The authors agree with the assessment that these limits are no longer appropriate for today's electoral environment, particularly as there has been an upward trend in campaign spending over the past 16 years (Electoral Commission, n.d.-b; Social media expert B, 2019). Several factors heighten the risks that significant levels of the following types of campaign activity will skirt regulations relating to financial spend: low- or no-cost digital strategies; the repurposing of existing content; and the ability to game algorithms for reach.

At the moment, financial penalties represent an inconsequential cost of doing business in elections. For example, in the case of Leave.EU it was found that the campaign committed one offence and the responsible person, Ms Elizabeth Bilney, committed four (Electoral Commission, 2018b). Ms Bilney did not incur any fines or criminal sanctions (although her case was referred to the Metropolitan Police), and the Leave.EU campaign was charged only £70,000 in aggregate in fines (BBC News, 2019). Although the fines represent 10% of the maximum spend for a campaign, this does not take into account more than £480,000 in disputed unreported expenses (see Table 2).

Overall, the £70,000 fine is dwarfed by the campaign's significant lack of reporting and its misreporting of its finances. Accounting for the total amount of the disputed expenses increases the campaign's spend by almost 70%, placing it well above the spending limit. Additional concerns relating to the financing of that campaign include a £6 million loan from Arron Banks and other unregulated costs (Electoral Commission, 2018b).

Table 2. Disputed unreported Leave.EU expenses

Unreported expense (whole or proportion of)	Amount	Notes
Confirmed unreported spend (whole)	£77,380	Fees paid to the campaign organizer Better for the Country Limited and the only misreporting to incur a fine
Unreported management fee (whole)	£30,699	5% management fee paid to Better For the Country Limited
Unreported receipts (whole)	£80,224	Ninety-seven payments of over £200
Unreported staff expense (whole)	£46,681	59% management fee paid to Better For the Country Limited
Unreported spend with consultancy (unknown proportion)	£246,000	Paid to Goddard Gunster, for services rendered before the regulated period but made use of during the regulated period
Total	£480,984	

Recommendations

The UKEC needs sanctions that are fit for purpose. These would include increasing the maximum sentence and maximum fines for electoral fraud or rule breaking as well as innovative, new sanctions which would reflect the increasing importance of data and long-life content.

Earlier and interim reporting deadlines with clear reporting categories would assist in this endeavour. The current sanctions are not sufficient deterrents for campaigners who have solid financial means, only a short-term aim, or are unlikely to be held

accountable for their actions until many years after the event. There needs to be improved ability to hold individuals financially liable, particularly after a campaign group has been disbanded. Most of the suggestions around sanctions focus on an increase in fines, such as using GDPR-like percentage-based fines on spending or raised funds, or an increase in maximum sentences for individuals from two to ten years' imprisonment (Law Commission et al., 2016). The authors recommend that the Oxford Technology & Elections Commission (OxTEC) support the adoption of such approaches by the UKEC.

There are other resources that are just as, if not more, important than money which can be leveraged by the UKEC. In a digital era, data is king. Restricting the use of data and the tools it enables may result in a stronger incentive to treat voters and their data respectfully and use online platforms appropriately. For example, Damian Collins has questioned the appropriateness of targeting users based on inferences about their political affiliation, particularly when users have not chosen to disclose their political views and cannot opt out of political advertising (Collins, 2019).

In the face of campaign rules being broken or the abuse/misuse of digital tools, the UKEC should consider a variety of new sanctions, such as:

- limiting or barring the use of sensitive data sets, such as those based on race, gender, or religious belief
- restricting the targeting of political campaign materials to those who have chosen not to reveal their political beliefs on the platform
- restricted use of inferred audiences and tools such as Facebook's Custom Audience in political campaigning
- timely removal of targeted content in accordance with transparent processes which comply with principles of open justice.

Lack of clarity regarding reporting and expectations of campaigners complicates the application of sanctions and may have contributed to ambiguities in the Leave.EU inquiry. Therefore, updates to sanctions and financial reporting must take place concurrently. Additionally, the UKEC should consider the use of incentives to encourage appropriate and reasonable use of user data and digital campaign tools. One example is protection from sanctions if campaigners voluntarily disclose information, which would be similar to leniency provisions in EU competition law.

3.2.3 Financial Transparency

Financial transparency provides the electorate with information about the people and organizations behind campaigns and provides the regulator with crucial information related to the equitable execution of campaigns. Financial information is also used to apply appropriate regulatory frameworks to registered campaigners. Relative spending limits are applied to categories of campaigners and there are different reporting requirements for spending levels and types.

The UKEC has made important observations regarding financial transparency in a digital age. For instance, while the posting of organic campaign materials is free, associated staff or consultant costs are currently not included in spending limits or reporting (Electoral Commission, 2018a). However, the development of engaging organic content can incur significant costs related to digital marketing (e.g., content creation and promotion, data analysis, and audience building, etc.) and can work around known algorithmic nuances. Furthermore, there are no detailed requirements for spending reports related to social media. As seen in the case of Leave.EU, the lack of understanding regarding expected reporting standards has led to incomplete and inconsistent reporting among campaigners, which can be abused.

Although platforms like Facebook increasingly tweak algorithms to favour paid content and increase advertising revenue, the actual cost of running a digital campaign is still relatively low. For example, in 2014 a man ran a targeted advertising campaign which allowed him to target one individual – his flatmate – over a period of three weeks and this cost him just US$1.70 (Swichkow, 2014). Although changes have been made that make this type of targeted advertising more difficult, the current reporting and spending limits allow unprecedented levels of advertising reach – and potential public persuasion – that are well below the required reporting limit.

Recommendations

The authors recommend that OxTEC support the UKEC's recommendations to include staff costs and itemized invoices from campaigners' own and contracted third parties' digital campaigns, and support more timely and frequent reporting. The itemized reporting of spend should include categories such as services, data acquisition, data analysis, content creation, and advertising fees to better understand the comprehensive cost of digital advertising as well the spend on paid and organic content.

In addition, guidance on financial reporting also needs to take into consideration the business models and economic environment of online platforms. This includes the low cost of digital advertising, the long lifespan and 'second life' of digital content, and the staff and third-party costs already discussed above. The UKEC should reduce the reporting limit for digital campaigning and should execute a review of the overall limit structure.

There is also a need for a review of the regulated period to ensure that it is updated for the digital age. Digital content does not disappear in the same way as broadcast or billboard materials. Online content can continue to build credibility and reach for future posts long after campaigns have ended. UKEC guidance already requires the reporting of costs associated with any content used during a campaign and in particular any used during the regulated period – whether or not that content is new. This is a good example of the UKEC using guidance creatively to reflect emerging

practices, in the absence of legislative reform, to achieve the goals of the primary legislative framework.

3.2.4 Foreign Interference and Location Verification

Foreign interference in national matters such as elections is illegal and undermines public trust and confidence in local democratic processes and electoral outcomes. The use of global social networking platforms means that local matters are played out on an international stage. While there is little, if anything, that can be done to regulate user-generated content (e.g., content that is *not* from a registered campaigner), voters have the right to assurance that advertisers are following local electoral law. Therefore, greater expectations can be placed on campaigners making use of paid or organic content. For instance, requiring location verification, along with other tools, may buoy voter confidence in local electoral integrity.

In the United States, Facebook, Google, and Twitter have already started developing new controls for location verification of political advertisers, and the UKEC has requested similar controls for UK electoral cycles (Electoral Commission, 2018a). These tools have not been analysed for this study. However, testing electoral safeguards in one jurisdiction prior to international roll-out is a known strategy of the platforms (Taylor et al., 2018). Hence, the platforms may introduce similar controls in the UK following an evaluation period in the US.

Recommendations

The focus on advertising controls only addresses paid content, and the majority of the UKEC recommendations focus on campaign finances. Although financial measures are an important topic, they fail to address issues related to organic content, which this study has shown is an important aspect of political campaigning.

In addition to the UKEC's recommendations for permissibility controls and foreign interference, we recommend that the UKEC take steps to curb the abuse of organic content. One such example has already been discussed – the imprinting of paid and organic content by registered campaigners. Additionally, the UKEC could become a resource for registered campaigner 'official' social media accounts and require all campaigns and their officials' personal accounts to be disclosed upon registration. While the ability to operationalize such a registered list through regulation may take some time, campaigners could be encouraged to participate in an optional register.

One way to sway campaigners to participate may be protection from particular sanctions or inquiries. At the same time, they may also be required to sign up to an agreed code of conduct for digital campaigning. Creation of a social media account register could also result in a new category of campaigner – a registered digital campaigner. The vetting process would be done by the UKEC. The register of official accounts could include not only the campaign organization's accounts but also the

accounts of key people directly associated with the campaign, including politicians and individuals such as the 'responsible person'.

Should the UKEC take up this responsibility, it could have a variety of positive effects. The portal would support 'fact-checking' efforts and provide a trusted resource through which voters could identify accounts of legal campaigners across platforms. It would improve transparency as to the ownership and purpose of accounts. It would also provide a more authoritative source than the social media platforms themselves to verify the legality and location of anyone wishing to purchase political advertising – and help to foster a more cooperative working relationship between the UKEC and platforms. A database paired with imprinted content would provide a resource for platforms to ensure that only legally registered accounts are allowed to purchase political advertising and to help identify misuse of the platform by imposter campaigners, either local or foreign.

3.3   Planning for the Future

As the UKEC works to future-proof relevant policy and guidance, there are a number of emerging issues that are not addressed in the reports or well understood by industry experts. Most of our interviewees focused their insights on Facebook as the primary platform used for political campaigning. However, they acknowledged the surge in Instagram's popularity and the resulting shift of investment from Facebook to Instagram. Unfortunately, few details are currently available on Instagram's approach to political advertising or how its algorithms influence paid and organic reach. Additionally, three interviewed experts mentioned the need for more research relevant to YouTube – which many considered a 'dark horse' in the area of political campaigning with a high propensity for malicious use with regard to mis- and disinformation, good value for money, and little oversight (Manson, 2019; Social media expert A, 2019; Social media expert B, 2019).

In the EU, Facebook, Twitter and, increasingly, Instagram are users' preferred social media platforms while Google is the dominant platform for searches. However, in other countries (e.g., Brazil and India), closed networking apps such as WhatsApp and Facebook's Messenger have raised issues during election cycles (Bansal & Snigdha, 2019; Machado, 2018). Although private messaging apps are not thought to have had a problematic influence on UK elections to date, the reality is that we do not know for sure, although companies operating in European markets have noticeably increased their interest in closed, opt-in, and 'private' social networking groups (Social media expert A, 2019). Because product and political digital marketing learn from each other's experiences, it is only a matter of time before issues related to private platform campaigning potentially become a primary concern. These issues are important areas for future research. The authors recommend that OxTEC encourage the UKEC to be more proactive in research and best-practice sharing with international partners in relation to emerging technologies and their potential impact on electoral cycles.

4 CONCLUSION

In reaction to public scandals about social media platforms' role in facilitating the spread of disinformation during 2016 electoral cycles, the platforms announced a series of AI and algorithmic changes (Taylor et al., 2018). To some extent this was in response to the public outcry and numerous government initiatives, some aimed at regulating social media platforms to address online harms and threats to democracy (Bradshaw et al., 2018). Since 2017, digital marketers and researchers have reported that algorithmic changes have decreased the reach of organic content on social media platforms (Bradshaw, 2019; Manson, 2019; Social media expert B, 2019; York, 2019). The changes have also contributed to a rise in Facebook's profits in what is increasingly a 'pay to play' environment. Meanwhile, users are migrating to other platforms, like Instagram. However, research has also shown that people adapt their behaviour, learning through trial and error how to game the algorithms. This is resulting in a shift back to the spread of low-quality content online (Bradshaw, 2019; NewsWhip, 2018).

The cyclical nature of algorithmic changes and gaming means that any positive change is probably short-lived. Democratic societies cannot hope that technical solutions alone will be sufficient to solve platform misuse during electoral cycles. A fuller understanding of both organic and paid-for campaigning techniques is required. Combined, updated official guidance and regulations and an exploration of incentives would improve oversight of the digital campaign space and hold both campaigners and platforms to account.

Winning elections is not only about the social media advertising spend but also about how opportunities afforded by the platforms are implemented. To date, much of the attention has been on paid content or advertising. However, an equally important tool in digital campaigning – organic content – is not well understood, particularly in the political sphere. During the European parliamentary elections, some of the largest spenders on digital advertising performed the worst in the elections (Manthorpe, 2019). A successful online campaign blends organic and paid-for elements, standing or falling by the levels of engagement it provokes among users. Political materials necessarily have a large, built-in audience due to the national public interest in the issues at hand. This means that political organic material lives in a different environment to its non-political counterparts. It is strongly recommended that more research be done on the use and life of organic content in political environments.

The need to continually adapt strategies and increasingly rely on paid content is not seen by the interviewed experts as a significant change to platforms' algorithms. Instead, it is seen as a logical evolution of the marketplace, particularly since 2014, that is consistent with the regular ebb and flow of the digital marketing race and algorithms created to benefit the platforms' bottom line (Manson, 2019; Social media expert A, 2019; Social media expert B, 2019; York, 2019). The cost of online advertising is still low and may result in overall political or financial gains for those

who misuse platforms if there are not sufficient deterrents (e.g., sanctions). At the same time, regulators cannot focus only on paid content and expect to address the spread of disinformation and low-quality content online. Regulation of paid content may impact clickbait revenue-seekers and allow for faster application of laws to some content, but other malicious actors, including political trolls, will also employ organic content in ways that are harder to identify, suppress, or take down.

Another algorithmic change that has taken place since 2016 noted by digital marketing experts is the increased rewarding of content that garners engagement and conflict, and a decrease in 'reaction' value (e.g., likes, upvotes, or emoji reactions). Engagement mainly rests on the posting of comments or direct shares through the likes of Messenger. The most rewarding engagement reflects strong emotions (particularly negative ones) and conflict. Marketers have already found ways to game the algorithms by first targeting groups that will provide the conflict and reach before retargeting content at the intended audience. Unfortunately, the algorithm and the workaround both prioritize conflict over measured discourse, which has contributed to the polarizing of politics seen in recent years.

A third point of evolution is the tightening of platforms' rules on data sharing with third-party apps. Perversely, this has not reduced the abuse of data or the ability to create inferred audiences. Instead, these activities have moved off-platform and have increased the importance of third-party adtech companies – the Cambridge Analytica Effect. The volume and variety of data and the inferences made with the data are used to identify target audiences offline, then used to optimize the impact of online tools provided by the platforms.

Focusing regulation on online content and platforms alone will not address the critical issues and misuses associated with data aggregation, inferred audiences, and micro-targeting. Coordination between the UKEC and the ICO has become increasingly important to ensure regulation is applied consistently. There will be little chance to curb exploitative behaviours until relevant regulation such as the GDPR (Information Commissioner's Office, 2018) and electoral law are effectively enforced throughout the entire political and marketing supply chain.

Although the interviewed experts were split on the myth or magic of micro-targeting, Christopher Wylie's evidence to the DCMS Select Committee indicates that Cambridge Analytica's content regularly achieved conversion rates of 5% to 7% and sometimes up to 10%; in comparison, the digital marketing industry considers a 1% to 2% conversion rate to be a good result (Wylie, 2018b). Both the digital marketing industry and actors spreading disinformation have quickly identified algorithmic changes and have adjusted their strategies accordingly. There is an urgent need for the UKEC to update its guidance to reflect the new digital age of political campaigning and public commons, otherwise democracy will increasingly become collateral damage in the arms race between the online platforms' business models and those who know how to game them.

The UKEC's efforts to understand and develop thinking around the issues of digital political campaigning are commendable. However, the public discussion of these issues must move more quickly and the operationalization of the UKEC's recommendations needs to be supported by other influential voices. A failure to improve the oversight of UK electoral cycles could further undermine public trust, which is already at an unprecedented low level (BMG Research, 2019; Edelman, 2018; Electoral Commission, 2019a). The authors recommend that OxTEC support the adoption of recommendations by the UKEC, the Law Commission, and the DCMS Select Committee highlighted here. At the same time, the UKEC's recommendations in particular do not address other pressing issues specific to online campaigning, such as incentives for positive behaviour and reporting non-financial information associated with organic content.

Implementing some of the measures discussed here will be costly. Apart from the DCMS Select Committee's report, which supports a levy on tech companies, there has been little public discourse on how to finance new or expanded regulatory responsibilities (Digital, Culture, Media and Sport Committee, 2019). This needs to be addressed urgently, as obvious options such as funding through UK taxpayers or platform levies will probably be highly contested and not easily implementable.

Finally, a change in legislation is unlikely given the political climate and other government priorities such as Brexit. Instead, the UKEC can use its existing powers and ability to publish guidance on regulatory compliance to engender a culture change regarding digital campaign oversight. The UKEC should update guidance in the areas of materials' imprint, sanctions, financial reporting and spend, and foreign interference and location verification. This exercise will highlight regulatory gaps requiring legislative action and will give the UKEC the toolkit required to ensure electoral fair play in a digital age.

4.1   Recommendations

1. The UKEC should focus on developing and implementing official guidance related to the top four recommendations already identified in its reports:

   - digital imprints
   - sanctions
   - financial reporting and campaign spend
   - foreign interference and location verification.

2. The UKEC should create a database of official registered campaigner social media accounts to support fact-checking and raise public awareness of official campaigners and their campaign material. Initially, this could be a voluntary measure for campaigns and their officials to encourage positive behaviour, support fact-checking initiatives, enable platforms' initiatives to counter disinformation, and provide better oversight of accounts and content during election cycles.

3. All digital content (both advertising and organic) from registered campaigners should be treated as any other campaign material and should be imprinted and included in the reporting of campaign finances and materials.

4. Sanctions should be updated for a digital age. This should include increasing the maximum fine as a percentage of total campaign spend or financing and increasing the maximum sentence for serious cases as well as innovative sanctions aimed at the heart of digital campaigning – data, targeting, and long-life content.

5. Financial reporting and spending limits should be updated and fit for purpose. This should include the need for clear guidance on digital spend reporting as well as reconsideration of the lower spending limits for reported costs. Updates to financial reporting and spending limits need to take the following into account:

   o the relatively inexpensive cost of online advertising and extensive use of digital marketing techniques to extend the organic reach of content
   o the offline costs associated with digital campaigning
   o the long life and potential second life of digital content
   o the appropriateness of the current regulated period for digital content.

6. The UKEC should consider incentive structures to promote what it considers to be appropriate use of data and online platforms. This may include voluntary disclosure policies and exemption from particular sanctions. It could also focus on positive actions such as voluntary registration of campaigns' official social media accounts as discussed in Recommendation 2.

7. The UKEC and the UK government should consider formal mechanisms for cooperation with other electoral oversight bodies in Europe and other like-minded nations, such as Commonwealth and Five Eyes nations, to promote information sharing, including information concerning the evolution of disinformation and the misuse of online platforms by bad actors, successful remedies, and observed trends.

8. The UKEC and the UK government should have the power to inform the public and publish data in real time (i.e., during election cycles) in exceptional circumstances where there is evidence of significant foreign activities that are likely to undermine the integrity of UK elections.

5 APPENDIX: ANALYSIS OF THIRD-PARTY RECOMMENDATIONS

Table 3. Recommendations on digital imprint

Report	Sample recommendation
Law Commission	Recommendations section 11–6: The imprint requirement should extend to online campaign material which may reasonably be regarded as intending to procure or promote any particular result, subject to a reasonable practicability defence.
UKEC 2017	Recommendation 8: An appropriate level of imprint information should be required in online and electronic referendum campaign material.
UKEC 2018	Recommendation 1: Each of the UK's governments and legislatures should change the law so that digital material must have an imprint saying who is behind the campaign and who created it.
DCMS Select Committee	211: Electoral law is not fit for purpose and needs to be changed to reflect changes in campaigning techniques and the move from physical leaflets and billboards to online, micro-targeted political campaigning. There needs to be absolute transparency of online political campaigning, including clear, persistent banners on all paid-for political adverts and videos indicating the source and the advertiser; a category introduced for digital spending on campaigns; and explicit rules surrounding designated campaigners' role and responsibilities.

Suggested considerations:

- All content from official registered campaigner accounts should be imprinted and included in reporting.

Table 4. Recommendations on sanctions

Report	Sample recommendation
Law Commission	Recommendation 11–9: A maximum sentence of ten years' custody should be available in cases of serious electoral fraud as an alternative to recourse to the common law offence of conspiracy to defraud.
UKEC 2017	Recommendation 13: The Electoral Commission's current fine limit should be reviewed and increased.
UKEC 2018	Recommendation 15: Each of the UK's governments and legislatures should increase the maximum fine for breaking the rules.
DCMS Select Committee	214: The government should explore ways in which the Electoral Commission can be given more powers to carry out its work comprehensively, including the following measures: the Electoral Commission's current maximum fine limit of £20,000 should be increased and changed to a fine based on a fixed percentage of turnover, in line with powers already conferred on other statutory regulators.

Suggested considerations:

- Develop sanctions related to data use and targeted material.

Table 5. Recommendations on financial transparency

Report	Sample recommendation
UKEC 2017	Recommendation 6: Campaign-related staff costs should be included in the limits on political party election and referendum campaign spending. Recommendation 11: Campaigners should be required to include itemized information on pre-registration spending in their return.
UKEC 2018	Recommendation 2: Campaigners should be required to provide more detailed and meaningful invoices from their digital suppliers to improve transparency. Recommendation 6: We will make proposals for campaigners and each of the UK's governments about how to improve the rules and deadlines for reporting spending. We want information to be available to voters and us more quickly after a campaign or during it.
DCMS Select Committee	213: The government should carry out a comprehensive review of the current rules and regulations surrounding political work during elections and referenda, including: increasing the length of the regulated period; defining what constitutes political campaigning; and reducing the time for spending returns to be sent to the Electoral Commission.

Suggested considerations:

- Revisit the reporting and spending limits taking into consideration the low cost and extended life of digital advertising.
- Reconsider the duration of the 'regulated period' and interim reporting deadlines.

Table 6. Recommendations on foreign interference and location verification

Report	Sample recommendation
UKEC 2017	Recommendation 3: The government and parliament should revisit the permissibility controls on companies.
UKEC 2018	Recommendation 8: Social media companies should put in place new controls to check that people or organizations who want to pay to place political adverts about elections and referenda in the UK are actually based in the UK or registered to vote here.
DCMS Select Committee	267: There is a general principle that, subject to certain spending limits, funding from abroad is not allowed in UK elections. However, as the Electoral Commission has made clear, the current rules do not explicitly ban overseas spending. We recommend that at the earliest opportunity, the government reviews the current rules on overseas involvement in UK elections to ensure that foreign interference in UK elections, in the form of donations, cannot happen. We also need to be clear that Facebook, and all platforms, have a responsibility to comply with the law and not to facilitate illegal activity.

Suggested considerations:

- Develop a database of registered campaigner accounts.
- Stress the importance of understanding difference between oversight of organic content and oversight of paid content.
- Permit urgent interventions during an election process if significant foreign interference is detected.

6 GLOSSARY

This glossary explains key terminology and concepts used in the report.

Algorithm	An algorithm is a set of instructions that is established in order to carry out a problem-solving operation (such as a calculation or a series of steps of automated reasoning). A computer algorithm directs a computer system to proceed from an initial state (with a certain input) through a finite number of steps to a final state (with a certain output).
Computational propaganda	Computational propaganda is 'the use of algorithms, automation, and human curation to purposefully distribute misleading information over social media networks' (Woolley & Howard, 2017).
Disinformation	Disinformation is false information which is spread with the intention to mislead. (Disinformation should be contrasted with MISINFORMATION. Disinformation is a type of misinformation, but not all instances of misinformation are instances of disinformation: the dissemination of misinformation is not always deliberate, for example.)
Impression	An impression is a single instance in which an online advertisement is viewed on an Internet user's monitor.
Interaction	Interactions are those Internet platform user engagements through which content is prioritized, promoted, or otherwise ranked. Examples of interactions include Facebook 'reactions' to a post (labelled 'laugh', 'cry', 'angry', and 'love'), 'liking' and 'up voting' of posts, leaving comments, interacting with comments on posts, and reporting posts.
Inferred audience	On the basis of data collected about media users' online behaviours and/or taken from certain offline data sets, inferences about the characteristics and preferences of these users can be made. Through making these inferences, a conception of the users is formed – an inferred audience.
Micro-targeting	The practice of employing user data to aim particular content at small curated groups of users, as opposed to posting impersonal content more widely. Micro-targeting is often used by political campaigners: particular subgroups among the voting population are targeted with those personalized communications that are most likely to persuade them to adopt the position of the campaigners.

Misinformation	Misinformation is the spreading of false or inaccurate information. (Misinformation is to be distinguished from DISINFORMATION.)
Organic content	Organic content is content that is generated and posted by Internet users or accounts without a payment being made for REACH. The producers of organic content can be individuals, brands, advocacy groups, campaigners, political parties, or other organizations. (Organic content is to be contrasted with PAID CONTENT.)
PageRank	PageRank is an ALGORITHM developed by the founders of Google, Larry Page and Sergey Brin, which ranks the results of a Google search in order of apparent importance. The original algorithm assigned each web page a score of between 0 and 10 based upon the number of links to that page and the quality of those links, giving a higher score and thus a higher ranking to those pages with the most (and highest-quality) links. The key operative assumption leading to the development of PageRank was 'that more important websites are likely to receive more links from other websites'. Because of later developments in Google's overall ranking algorithm, a high PageRank score no longer guarantees a high ranking in a Google search.
Paid content	Paid content is content that is generated and posted by users or accounts through using paid-for services such as advertising portals, Facebook's Custom Audiences, and other REACH-enhancing tools. (Paid content is to be contrasted with ORGANIC CONTENT.)
Rank	A content's rank on a certain platform is the visibility or accessibility of that content on the platform. Content with a higher rank is more visibly positioned, such that it receives a greater number of IMPRESSIONS. A link with a higher rank in search results is placed higher in the list of results and tends to have a higher click-through rate.
Reach	The reach of a post or other online content is the degree to which the content is disseminated through a platform or other online environment. One way in which one may gauge the reach of a post is by finding the number of accounts or feeds on which the post appears.

Search engine optimization (SEO)	Search engine optimization (SEO) is a process of increasing the RANK of a website or web page by hypothesizing about the characteristics of web pages that lead to those pages being prioritized by the given search engine's algorithms. Through search engine optimization, the number of impressions that a certain post or other online content receives can be increased.
Social media marketing	Social media marketing is the use of certain techniques to increase the REACH of (either PAID or ORGANIC) content within proprietary social media platforms. The techniques used are based upon conjectures about the characteristics of online contents that lead to those contents being ranked higher by the given platform's proprietary algorithms.
SSL certificate	Secure Sockets Layer (SSL) certificates are small data files that secure an encrypted connection between a computer or browser and a server or website. An SSL connection prevents the interception of sensitive data (such as credit or debit card information) by unauthorized parties.
WHOIS	The WHOIS is a service offered by domain name registries and registrars to provide access to all or a subset of WHOIS data. WHOIS data is the information that registrants provide when registering a domain name. Some of this information is made available to the public (WHOIS Review Team Final Report, 2011).

7 ABBREVIATIONS

AI   artificial intelligence

ATM   automatic teller machine (cash machine)

DCMS   Department of Digital, Culture, Media and Sport

EU   European Union

GDPR   General Data Protection Regulation

ICO   Information Commissioner's Office

OxTEC   Oxford Technology and Elections Commission

SEO   search engine optimization

UK   United Kingdom

UKEC   United Kingdom Electoral Commission

US   United States

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