Fake News: Media Economics and Emotional Button-Pushing

Summary

- We should pay attention to the role of digital behavioural advertising both in incentivising, and combating the phenomenon of fake news.
- We should pay attention to a larger near-horizon problem: the potential to manipulate public sentiment via sentiment and emotion-optimised automated fake news.

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1. Introduction

1.1 We examine the economic underpinnings of the contemporary phenomenon of fake news – namely, news that is either wholly false or that has deliberately misleading elements incorporated within its content. At heart, the problem of fake news is about the economics of attention: specifically, how viewing time converts to revenue from advertisers. We suggest that more attention be paid to the role of digital advertising both in causing, and combating the phenomenon of fake news. We also point out the economic incentive to produce automated fake news that reacts to group emotional behaviour within social networks (or what is here termed ‘fellow-feeling’).

2. Contemporary Context

2.1 Fake news is not a new phenomenon, but it has been colonised by an assemblage of ordinary people trying to make money from websites, capitalising on algorithms used by social media platforms and internet search engines. For them, fake news acts as ‘clickbait’ - namely, web content aimed at generating online advertising revenue at the expense of quality or accuracy, relying on sensationalist headlines or eye-catching pictures to attract click-throughs and online sharing.

2.2 During the 2016 US presidential election campaign battle between Donald Trump and Hillary Clinton, fake news stories spread across Facebook, the world’s largest social network. Journalists have traced the fake news upsurge to enterprising computer science undergraduates and teenagers in Veles, Macedonia (Kirby 2016, Silverman and Alexander 2016). These students found that it was financially lucrative to create outrageous fake news stories about American politics, often plagiarised from right-wing American websites, repackaged with catchy headlines, and shared on Facebook. This would generate large audiences for the story, earning some students thousands of Euros a day through digital advertising on their fake news websites (Kirby 2016). Across 2016, Veles locals launched multiple US politics websites (estimates range from dozens to 140) with American-sounding domain names like USADailyPolitics.com (Silverman and Alexander 2016, Gillin 2017). Most of these websites published sensationalist and false pro-Trump content aimed at conservatives and pro-Trump Facebook users: the largest of these sites have Facebook pages listing hundreds of thousands of followers. In the final three months of the 2016 election campaign, the most engaged-with story was the fake story ‘Pope Francis Shocks World, Endorses Donald Trump for President, Releases Statement’, amassing 960,000 Facebook shares, likes and comments (Price 2016, Silverman 2016).

2.3 Most of the Veles locals created these fake news stories not for propagandistic reasons, but for money (Tynan 2016): their experiments with left-leaning content simply did not perform as well as pro-Trump content on Facebook. While Trump is what maximised revenue in 2016, other fake news
genres also proliferate. These include health and well-being sites (Silverman and Alexander 2016); and sites involving US celebrities variously praising a small, US town for being full of helpful people and promising blockbusters filming nearby, apparently micro-targeting these small town residents to gain advertising clicks (Gillin 2017).

2.4 Already, counter-measures have been taken in the USA, addressing different aspects of this problem. Of those addressing the economic underpinnings, solutions have focused on the role that social networking platforms can play in encouraging users not to share fake news stories, thereby reducing audience size (and associated financial incentives) for fake news. For instance, since mid-December 2016, Facebook has teamed with fact-checking websites to flag up to users if content seems potentially fake; it is testing its algorithms to see if it can make fake news stories appear lower in the News Feed; and it has eliminated the ability to spoof domains, to reduce the prevalence of sites masquerading as well-known news organisations (Mosseri 2016).

3. A Solution Lies Within the Problem: Media Economics and Digital Advertising

3.1 The fake news situation is socially and democratically problematic because it feeds false information into self-reinforcing algorithmic and cognitive systems to end up in ‘echo chambers’. Echo chambers exist where information, ideas, or beliefs are amplified or reinforced by communication and repetition inside a defined system where different or competing views are underrepresented (Jamieson and Cappella 2008). Algorithmically-created echo chambers, or ‘filter bubbles’, arise when algorithms applied to online content selectively gauge what information a user would like to see based on information about the user, their connections, their browsing history, purchases, and what they post and search. This results in users becoming separated from exposure to wider information that disagrees with their views (McStay 2011, Pariser 2011).

3.2 A closely related psychological phenomenon to echo chambers is ‘confirmation bias’, or people’s tendency to search for, interpret, notice, believe and recall information that confirms their pre-existing beliefs (Wason 1960). The consequence of algorithmically created filter bubbles and human confirmation bias is limited exposure to ideas, different viewpoints and lack of engagement with the perspectives of other people (also see Bessi et al. 2016, Quattrociocchi et al. 2016).

3.3 Removing the financial incentive to create fake news stories by encouraging people not to share them is worth exploring. However, it assumes that people prefer accuracy over content that reinforces their beliefs (confirmation bias). Rather than relying on users to exercise such judgement, and rather than focusing on the social networking sites, we suggest that the role of digital advertisers in proliferating fake news needs scrutiny. After all, most of the fake news websites of the 2016 US presidential election were ultimately created not for propaganda, but for money.

4. Enabling Fake News Sites to Profit

4.1 The way digital advertising is paid for and served favours fake news sites. Whereas in print news, the news producers and advertisers carefully consider where an advert is placed, in what news outlet, and next to what stories, this process of consideration can no longer be guaranteed in the digital sphere. The nature of online behavioural advertising inherently means advertising may be placed against inappropriate content. There are various ways that display ads can be served on web and mobile pages. These include: buying direct from publishers; and buying from entities called ‘ad networks’ and ‘programmatic’ advertising that utilise behavioural targeting (McStay 2016a). Understanding how this works provides insights into why the problem of fake news is prominent today, as well as how we might tackle the problem of fake news production for economic gain.

4.2 Although buying direct from an online publisher (like The Guardian) is useful if an advertiser knows which sites they would like to advertise on, the web is a big place, and if advertisers want to reach more sites and potentially people, it makes economic sense to use behavioural targeting techniques (the practice of tracking users as they browse webpages to serve them ads on the basis of their online behaviour and what they look at online). Indeed, although the shift towards behavioural targeting cannot be said to have caused online fake news, it has facilitated the iteration seen during the 2016 US presidential election.
4.3 The principle behind behavioural targeting is that it targets the person rather than the publication. By contrast, in the past, if one bought ad space in a newspaper one would do this on the basis that a certain type of person typically reads that newspaper. In other words, the ad space was bought on the basis of general readership of the publication itself. Today, behavioural advertising is about targeting individuals wherever they happen to be online. In other words, the publication matters less.

4.3.1 This works through ad networks and companies that have access to ad spaces across the web, and data about audiences generated by online profiling. The ad spaces are ultimately owned by the web publisher, but are effectively rented to ad networks. Ad networks are businesses that sit between web publishers and organisations wishing to advertise (see Figure 1).

Figure 1 Ad Networks’ Place in Business Chain

Ad networks (such as Doubleclick) are thus able to offer advertisers a large collection of opportunities to exhibit their ads, allowing them to reach more sites and potentially people. For sense of scale, the Doubleclick ad network spans over two million websites that reach over 90% of people on the internet. Their services allows advertisers to easily buy ad space and reach specific types of people, wherever they happen to be online. The value of ad networks to publishers (like The Guardian) is that they give them a way to profit from their ad spaces without having to go to the effort of selling individual slots to advertisers. Programmatic techniques allow additional data to be used to target the advertising.

4.3.2. Critical to our concern with fake news is that although advertising served by ad networks maximises an advert’s reach to whom-so-ever and wherever a desirable person might be, advertisers relinquish control over where their advertising is displayed. Such automation of the ad space buying process has resulted in advertisers having less understanding of the websites and pages they are appearing on. Indeed, ads for brands such as Honda, Thomson Reuters, Halifax, Argos, John Lewis, Disney and the Victoria and Albert Museum have appeared on content promoting Islamic State (ISIS) and neo-Nazi content. This is because the behavioural and programmatic advertising profiles the person rather than the website they are looking at. Similarly, if the user looks at a fake news site, the adverts will appear there.

5. A Solution is to Follow the Money: Engage Digital Advertising Industry to Identify Suspect Publishers of Fake News

5.1 Advertisers – even the most disreputable - are unlikely to want their advertising associated with content that, by its very nature (i.e. fake news), cannot be trusted. As indicated in Section 4.3.2, the issue of ‘brand safety’ is an ongoing one within the digital advertising industry and the contemporary issue of online fake news adds political and public impetus to resolve this. Advertising firms are well placed to identify suspected publishers of fake news. A number of ad networks and programmatic companies (that offer expanded behavioural advertising services) already promise that they can deliver ads that are brand safe. Rubicon, for example, claims to be able to identify undesirable publishers before the ads are released, and to track activity during and after the campaign to see who clicked on which ads and where.

5.2 Google Adsense has already begun blocking sites (Nicas 2016), but we recommend consultation with self-regulatory bodies that represent ad networks, agencies and advertisers (e.g. Internet Advertising Bureau in the UK). If modern programmatic advertising promises greater control over the campaign management process, we recommend that the advertising industry be tested on this, starting with fake news websites.

6.1 Given the rapid onset and scale of the fake news problem, it is important to consider near-future possibilities. In the context of fake news, this includes the ability to manipulate public sentiment, and to do so via automated fake news. This distinct possibility arises because the success of fake news arises from its creators having financial self-interest in ‘feeling-into’ online conversations and creating headlines that will resonate with specific groups (such as anti- or pro-Trump supporters). There is a clear and relatively simple opportunity to marry technology that detects online emotion by the language and words that individual and groups post, with automated news, namely news headlines and body copy written by computers.

6.2 Fake news creators are already ‘feeling-into’ and profiting from collectives from afar. For instance, Macedonian fake news providers are exploiting the beliefs, desires and concerns of specific audiences in the USA. They are able to do this because online social media communities (such as on Facebook) already encourage echo chambers to form, be this via filter bubbles, confirmation bias or both.

6.3 The capacity to understand feelings, moods and emotions in networked communication is rapidly increasing through adoption of technologies that pertain to record and assess our emotions - what McStay (2016b, 2017) terms ‘empathic media’. These are underpinned by machine learning techniques to engage with emotions by assessing a range of data streams.

6.3.1 Of greatest relevance to our concerns with fake news is the analysis of emotions in words and images. More commonly dubbed as sentiment analysis, this is widely used to search and cross-reference social media data and news articles to find insights into social feeling towards a given issue that are valuable to clients: for instance, a brand may want to know how people feel about its competitors. Sentiment analysis is not always accurate, but is improving and may be programmed with context-specific keywords to understand fellow-feeling among specific demographics, sub-cultures and interest groups.

7. Knowing How to Manipulate Public Moods

7.1 The next step from understanding public moods is knowing how to interact with, and even manipulate, them. A relatively well-known example is the 2014 Facebook study of ‘emotional contagion’. The study found that when exposed to stimuli with positive or negative emotional content, people within social networks tend to replicate this in their own posting behaviour. Hence, emotional contagion has occurred without people being aware that their own posting behaviour has been manipulated by tweaking the content of their social media news feeds. Without participant consent, researchers secretly optimised 689,003 people’s News Feeds to understand how ‘emotions expressed by others on Facebook influence our own emotions’ which, constitutes ‘experimental evidence for massive-scale contagion via social networks’ (Kramer et al. 2014: 8788). In other words, the study demonstrated the ability to calculate publics and algorithmically sort and manipulate online fellow-feeling.

7.2 The issue of contagion and replication of emotional behaviour among groups should be borne in mind when one considers how fake news will develop in terms of its creation and dissemination among target groups with distinct demographic, behavioural, posting, linguistic, pictorial, emotional and intellectual profiles. The ability for deliberate and highly optimised emotional contagion exists for those who understand the algorithms and wish to exploit them for propagandistic or financial motives.

8. The Move Towards Automated News: Algo-journalism

8.1 Automated journalism (or ‘algo-journalism’) is increasingly being used by respected legacy news agencies such as Associated Press to provide detail-heavy news that does not require (expensive) human interpretation or analysis (McStay 2016a). Algo-journalism is typically used to distil and report key features of complex texts such as investment holdings, billing records and sports statistics, with data storytelling provided by companies such as IBM Watson and Narrative Science. Recently, software bots (‘bots’) have been used by The Washington Post to generate more insightful stories with a stronger editorial voice on stories about election wins and electoral trends. These work by editors creating narrative templates and stock key phrases that account for a variety of potential outcomes.
which the bot then matches and merges with structured data - in the case of a US election, via data clearinghouse VoteSmart.org (Keohane 2017).

8.2 Given how simple fake news story-lines are, there is no reason why these could not be generated by algo-journalism. Bots could also be used to widely spread such automated fake news, giving the impression that the fake news is highly popular and endorsed by many. This is not a dystopian fantasy: during the 2010 US midterm elections and the Massachusetts special election, social bots were employed to support some candidates and smear their opponents, injecting thousands of tweets pointing to websites with fake news (Ratkiewicz et al. 2011, Metaxas and Mustafaraj 2012).

9. The Potential for Empathically-optimised Automated Fake News

9.1 Fake news already operates in the context of ‘feeling-into’ online collectives, filter bubbles, confirmation bias and echo chambers. The opportunity of computer generated fake news, weaponised and optimised to resonate with social media users, seems entirely feasible on the basis of the current state of sentiment analysis and automated journalism. The process would be to: understand key trigger words and images among target groups; create fake news, and measure its engagement (in terms of click-throughs, shares, likes and effectiveness of message elements); and then have machines learn from this experience to create stories with more potency to elicit more clicks, engagement and thereafter ad-revenue. The process also has implications for use of aggressive propaganda and information wars. We suggest that the commercial and political phenomenon of empathically-optimised automated fake news is on the near-horizon.

10. Recommendations

10.1 Consult with advertisers, ad networks, programmatic advertising firms who serve the advertising, as well as bodies that represent the interests of the industry (e.g. the Internet Advertising Bureau in the UK). Although the programmatic firms themselves may not have a vested interest in assisting, advertisers do have an incentive: even the most disreputable will not want their ads associated with content that, by its nature, cannot be trusted.

10.2 Attention should be paid to the emergent empathic media sector. Companies such as IBM, Cambridge Analytica, Crimson Hexagon and Narrative Science should be identified and contacted to discuss ethical ways forward to prevent the intensification of the spread of fake news via the rise of empathically-optimised automated fake news.

References


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