



Deposited via The University of Sheffield.

White Rose Research Online URL for this paper:

<https://eprints.whiterose.ac.uk/id/eprint/203494/>

Version: Accepted Version

Article:

Smith, H. (2019) People-based marketing and the cultural economies of attribution metrics. *Journal of Cultural Economy*, 12 (3). pp. 201-214. ISSN: 1753-0350

<https://doi.org/10.1080/17530350.2019.1570538>

This is an Accepted Manuscript of an article published by Taylor & Francis in *Journal of Cultural Economy* on 24/01/2019, available online:

<https://www.tandfonline.com/doi/10.1080/17530350.2019.1570538>.

Reuse

Items deposited in White Rose Research Online are protected by copyright, with all rights reserved unless indicated otherwise. They may be downloaded and/or printed for private study, or other acts as permitted by national copyright laws. The publisher or other rights holders may allow further reproduction and re-use of the full text version. This is indicated by the licence information on the White Rose Research Online record for the item.

Takedown

If you consider content in White Rose Research Online to be in breach of UK law, please notify us by emailing eprints@whiterose.ac.uk including the URL of the record and the reason for the withdrawal request.

People-Based Marketing and the Cultural Economies of Attribution Metrics

Dr. Harrison Smith¹

School of Architecture, Planning and Landscape

Newcastle University

Newcastle Upon Tyne

United Kingdom

This work was supported by the Social Sciences and Humanities Research Council of Canada under Grant 752-2014-2618

People-Based Marketing and the Cultural Economies of Attribution Metrics

Abstract

This article analyzes People-Based Marketing (PBM) to theorize the cultural economies of attribution metrics. Through an analysis of marketing discourses, acquisition patterns, and marketing collaborations, it examines how platform capitalism is increasingly directed towards developing cross-device identity standards that consolidate performance metrics across digital markets. PBM extends the processes of platform capitalization across media properties, and the ways that claims of value and relevance are imbricated with the metricization of behavioural change in digital markets. The imperative of PBM to standardize techniques of identification and to make media increasingly measurable across markets has been a catalyst for new forms of data resolutions across platforms through strategic acquisitions and identity resolution consortiums. Moreover, emerging regulatory changes such as GDPR may in effect further reinforce trends towards the consolidation of data management and analytics platforms necessary to resolve identity across markets.

Keywords: marketing; platform capitalism; data analytics industries; political economy

How do platforms make people into markets? The socio-technical construction of markets has grown into a pillar of cultural economy research, and has focused on analyzing the significance of calculative frameworks and practices on shaping markets through assemblages of socio-technical devices, instruments, and experts (Çalışkan & Callon 2009). For digital platforms that depend on targeted advertising, this framework can be applied to the understanding of the ways that consumers are assembled by measurement and classification practices to calculate increasingly specific markets through data analytics (Ariztia 2018; Zwick & Denegri Knott 2009). These practices of economization reveal how markets are assembled by complex socio-technical practices, and analytical relationships between measurement and value that underscore the social life of methods, including the manipulation of data to order populations along socio-economic axioms (Moor & Lury 2011; Savage 2013).

Similarly, discussions of platform capitalism have focused on the generative mechanisms of capitalization and financialization by analyzing specific socio-technical practices and business models, including the delivery of advertising to specific markets using a variety of web-tracking technologies such as online cookies for 'data-driven personalization' (Srnicek 2017; Mackenzie 2018a). Tracing these processes of economization can be challenging because platforms are relatively opaque and depend on sustaining socio-technical relations of platformization and infrastructuralization (Mackenzie 2018b) through cultural and economic investments in data management platforms to consolidate heterogeneous data sources into tangible market insights. These processes highlight a growing body of scholarship that seeks to understand the mechanisms of platform capitalization, such as through techniques of enumeration that convert intangible social processes into economic assets necessary for the speculative valuation of platforms (Mackenzie 2018c).

Mobilizing a platform's user base for advertisers, and under increasingly specific analytical conditions, directly affects platform revenue streams. It is, however, an imperfect science fraught with theoretical, epistemological and methodological conflicts that manifest into issues of ad fraud and calls for greater transparency about what exactly is being bought and sold in digital markets (Sluis 2016). Changes in the socio-technical landscape of media practices have recently been observed that merit an examination of the relationship between platforms and the construction of markets, including the shift to mobile and cross-device marketing, the consolidation of platforms and data analytics companies, and marketing values that reflect new institutional objectives and business models to correspond with changes in values that shape how people are valued by capital (Skeggs 2014; Skeggs & Yuill 2015).

This article examines People-Based Marketing (PBM) to theorize how platforms enact markets to make particular claims of value and relevance to satisfy institutions of digital marketing and advertising. It analyzes the internalization of new values and axioms of relevance characterized by cross-device methods of identification, and corresponding attribution models that measure the performance and impact of advertising across markets. PBM reflects the complex cultural economies of measurement and value, and has reinforced a broader trend towards vertical integration of data analytics industries so that the targeting and measurement affordances of platforms like Facebook and Google are mimicked across markets. This is important because it not only reveals how the relationship between platform capitalism and speculative value is contingent upon the consolidation of data markets, but also that the larger data imaginaries that structure investment indicate a trend towards infrastructural standards that permit for seamless identification and measurement across markets (Beer 2017a; 2017b).

PBM reflects a growing social science interest in understanding the role platforms play in organizing social life, including their capacity to govern the distribution of social and

material resources through data analytics (Srnicek 2017; Mackenzie 2018a). Instead of dismissing PBM as yet another instance of marketing 'bullshit'², these discourses reveal specific tensions around measurement and value upon which platform capitalism business models depend for capitalization. PBM reveals how the specialist vocabularies of contemporary digital marketing are critiqued and reimagined through vernacular discourses and data imaginaries that reflect upon the complex relations of calculation and authority under new economic pressures to empirically demonstrate value and relevance across markets. PBM is a culmination of critiques directed at existing methods of identity governance based on assumed changes in the socio-technical landscape of media practices that demand new forms of market consolidation between data analytics platforms and publishers to properly identify and measure markets. It therefore makes ostensible claims of what customers want from platforms (Schleifer & DeSoucey 2015), through a data imaginary of how data management platforms can be manipulated to provide a holistic view of consumers across markets and thereby extend control over the production process. Critically analyzing the cultural values that frame specific business models in platform capitalism is therefore the primary contribution of this article. This is important in the current political climate where companies such as Facebook are under intensive scrutiny to be transparent about their data selling and sharing practices, as evidenced by the 2018 Cambridge Analytica scandal, and other crises of value and transparency in ad fraud.³

This article first situates PBM within growing bodies of cultural economy research in platform capitalism. Second, it contextualizes and introduces PBM within perceived changes in the socio-technical practices of digital culture. The following section discusses the subsequent internalization of PBM in the digital marketing industry through an analysis of relevant processes of consolidation in data analytics industries, and the rise of identity resolution consortiums that have sought to standardize the infrastructure of targeting and

measurement across the open web. Finally, it reflects on the implications of PBM in light of recent developments such as the General Data Protection Regulation (GDPR) in Europe.

Valuation and Capitalization

Ongoing research has sought to understand the changing socio-technical relations of how platforms mediate the construction of markets through specific discourses of platform affordances and their limitations (Gillespie 2010). Platforms encapsulate shifts in the modes of interactivity in network culture, such as from desktop to mobile, or from websites to applications (Hands 2013). These shifts signal the increasing multiplicity and heterogeneity of digital cultures across numerous digital geographies and properties, but at the same time are underscored by political economies of market consolidation and ownership towards concentrated ecosystems of profit seeking digital markets through the commodification of digital audiences across a range of platforms for advertisers. Platforms thus signal political and economic tensions and interests, including the desire to exact surplus from audience labour, and the desire to augment institutions of visibility, surveillance, and control for a variety of state-corporate interests that constitute culture of 'surveillance capitalism' determined to leverage platforms for behavioural influence (Zuboff 2015). These debates have fueled an emerging field of data politics (Ruppert et al. 2017) that have become, for better or worse, struggles of citizenship and democracy (Isin & Ruppert 2015).

Polemical narratives of empowerment or the reproduction of inequality have become flashpoints of social science debates into the infrastructures of digital culture (Pasquale 2016). These discussions frame ongoing relationships between data politics and the development of specific business models through processes of capitalization, circulation. Langley and Leyshon (2016) explain that platform capitalism signifies a new economic geography of circulation that enroll users, code, data, and analytics into participatory cultures

of production and consumption, enabling new business models such as the 'sharing economy' to function through practices of intermediation and capitalization of assets and labour. More importantly, platform business models are unique because of their underlying relationship with venture capital investment in which market capitalization processes of digital economic circulation leverage debt against future revenue prospects, otherwise known as the growth before profits model that derives from the financialization of speculative value (Davis 2017). This distinct business model therefore places significant expectations on platforms to demonstrate their potential for market capitalization. Platforms employ numerous strategies to demonstrate their value, although typically these strategies are produced under opaque conditions that lead to challenges in the research process (Langlois & Elmer 2013), and are structured by specific power relations in which platforms become governing systems of control over market processes (Andersson Schwarz 2017). For (Mackenzie 2018c), the capitalization of platforms is demonstrated in the way they configure social relations of production into assets through 'configurative enumeration': the strategic counting and association of specific elements and assets of a platform, such as user base and content produced.

This emphasis on enumeration is reinforced by the cultural economies of network effects in platform capitalism, but also demonstrates the importance of data and the processes by which data is worked on from its supposed 'raw' resource into providing tangible insights for market applications. For Srnicek (2017), the platform constitutes a business model that efficiently monopolizes the extraction and analysis of data that has subsequently manifest across a myriad of verticals, applications, and markets. Advertising platforms such as Facebook and Google are of particular interest here because these platforms have been successful in leveraging their architecture of data ingestion and analysis across a range of media properties and markets through the use of infrastructural elements and digital objects

that can track and analyze user behaviour through invisible actors (Lahey 2016). Facebook, for example, has developed from a social network into a platform by extending surveillance and analytical devices such as the 'like button' to make the web 'platform ready' (Helmond 2015; Gerlitz & Helmond 2013).

Making a Billion Legitimate People

Making the web 'platform ready' is likewise complimented by the ways that platforms, and its users, are made 'advertising ready' into legitimate targets through a larger data imaginary that resolves identity across platforms in the service of attribution models. Attribution is the scientific measurement of marketing campaigns in relation to specific objectives by calculating the impact of media on producing observable differences. The Coalition for Innovative Media Measurement (CIMM, 2016), for example, defines attribution as the cause of an action that 'refers to the process of identifying a set of user actions that contribute to a desired outcome, and then giving each of those actions a specific value' (p. 43). Correctly measuring attribution, and in turn the capacity for marketers articulate value, relevance, and credibility within a larger economic context of speculative value, has become increasingly important and contested because of the many 'touchpoints' or 'blends' of media exposure that can be incorporated in attribution models. The diversity of media practices reconfigures how marketers imagine, execute, and justify ad spending through technocratic expertise risks undermining many of the traditional roles and relationships of advertising industries, and more importantly questions of control over the production process in a shifting socio-technical landscape that places new demands on marketers to demonstrate value (Auletta 2018).

The imperative to 'keep pace' with technological change in the so-called 'impulse economy' (Schwartz 2011) has become a prominent concern for digital publishers and

marketers. The popularity of mobile and locative platforms (Wilson 2012), for example, has already begun to stimulate a broader re-imagining of various practices of economization. This includes new methods of targeting, clustering and typification of audiences into market segments through location data (Thatcher 2017), the use of mobile platforms for locally relevant content strategies such as through games and spatial search (Frith 2013), and the metricization of key performance indicators through new attribution models such as 'lift metrics' (Smith 2018). Trends towards mobile and locative platforms are also complimented by the shift towards 'smart' devices in other media markets such as television and digital-out-of-home that collectively can inform a broader marketing imaginary of identifying, segmenting, and measuring users through device profiles (Crosby and Langdon 2017). Collectively, they signify important material reconfigurations in the political economy of attention that defines how advertising strategically engages audiences through platforms (Wu 2016). In turn, 'keeping pace' also becomes a euphemism for the intensification of data extraction and analysis for accelerated forms of governance over the production process (Beer 2017b), such as through analytical processes that can track and predict consumer behaviour and associated consumer patterns that directly impact the production of value (Barreneche & Wilken 2015).

Google, for example, articulates this as 'micro-moment marketing' where marketers should exploit geo-localized search to contextualize the affective states of consumers, specifically identifying: 'I-want-to-know', 'I-want-to-go', 'I-want-to-do', and 'I-want-to-buy' micro-moments that represent four pillars of mobile marketing tactics (Adams, Burkholder and Hamilton, 2015). Underlying these micro-moments is the belief that the smartphone has 'forever fractured, or fragmented, consumer behavior into dozens or hundreds of short, fleeting, intent-driven moments' (Joachimsthaler, 2015). Google's philosophy reveals a broader shift in the epistemologies of platform capitalism that focus on the production of

consumer 'insight' that involves performing consumer tastes in ways that correspond with advertising purposes (Ariztia 2015). Marketers must carefully exploit this information to guide the dynamics of the marketing funnel by correctly positioning themselves in mobile interfaces to nurture specific affective states, mitigate friction, and thereby influence behaviour with greater control (Ash et al. 2018). This draws important theoretical connections with discussions of the ethics and politics of neuromarketing (Murphy 2008) where marketers target and influence psychological states because, as Google argues, 'Intent beats identity,' and 'Immediacy trumps loyalty' (Gevelber, 2015, 2).

Manipulating consumer insight and keeping pace with socio-technical change is perhaps best articulated with PBM by Facebook. Following Facebook's acquisition of Atlas Solutions, an advertising measurement and analytics company in 2013 for nearly \$100 million USD from Microsoft, Atlas Solutions was relaunched in 2014 as a Facebook subsidiary. The takeover and relaunch of Atlas Solutions was not intended to make further inroads with the digital ad networks, but instead to 'close the loop' of ad measurement and attribution (Constine 2013). The acquisition and relaunch of Atlas Solutions by Facebook was intended primarily to address a broader set of concerns in the digital advertising industry concerning a lack of transparency about advertising on Facebook properties by improving the measurement and analytics of its ad platform, thereby providing empirical metrics of the platform's value in terms of successfully influencing behaviour according to desired objectives. The relaunch of Atlas Solutions was branded under the moniker 'People-Based Marketing', whereby, 'people, not cookies, should be at the center of every decision advertisers make' (Atlas Solutions, 2017).

Cookies provide the necessary identifier that drives online advertising through the invisible installation of unique files by websites into a browser to track digital movements (Beck 2015). Atlas Solutions argues that changes in media practices are incompatible with

existing measurement technologies on platforms that depend on cookies for measuring attribution. This is further compounded by problematizing cookies as unreliable because it is possible for them to expire from browsers (or for users to exercise power over these tracking mechanisms by regular deletion), and because the majority of time spent on mobile devices is on mobile applications. This poses analytical and methodological challenges when media consumption occurs across devices, screens, and platforms, leading to 'siloes marketing strategies' (Boland 2013).

Problematizing the 'metric power' (Beer 2016) of cookies to provide meaningful data for marketers to inform strategy represents a critique of platform architectures for identification because of its perceived limitations to track users across media properties, be they owned by Facebook or otherwise. This also functions as a tactic for legitimating new platform identification solutions that companies such as Facebook claim to offer, such as using probabilistic and deterministic identification solutions that can proliferate across media markets on the internet:

'Facebook says Atlas will fix that problem by linking users' ad interactions to their Facebook accounts instead, whether the ads appear on Facebook or on third-party sites across the Internet. Atlas will essentially follow users across the web, making note of the ads they see, interact with and act upon, and will tie that information back to their Facebook profiles' (Marshall 2014).

PBM is also a mobile strategy that includes accelerating the production of advertising on their mobile applications through the launch of Facebook's Audience Network: 'a collection of mobile apps where Facebook advertisers can serve ads using the same targeting and measurement tools that they use on Facebook' (Facebook 2017a), in effect allowing Facebook to accelerate the monetization of consolidated mobile environments through the production of algorithmic mobile advertising (and sometimes serving these ads at higher prices) across a variety of platforms and sites (Peterson, 2016). The audience network epitomizes a cookie-free mode of audience production and reflects the underlying imperative

to demonstrate to clients that advertisements are in fact targeting 'real people'. As Brian Boland, Facebook's vice president of publisher solutions, speculates in an interview with AdWeek:

'We talk about reaching a billion people every month, and these are real people... We're not talking about cookies or browsers or devices or ID, where one person can look like six things. We're talking about legitimately 1 billion people that can be reached on the audience network' (Swant, 2017).

Resolving the socio-technical distinction between 'real people' and their identifiers underscores the kinds of tensions around the opportunities of algorithmic targeting afforded by platforms, and the ways metrics are disputed in relation to their economic performance for advertisers. Claims of reaching a billion legitimate people also reflect growing discussions in platform capitalization concerning the power of enumeration by converting intangible social processes into controlled assets (Mackenzie 2018c). The intensification of advertising through the expansion of media properties and markets must also be matched with corresponding knowledge that targeted content can realize desired outcomes. The acceleration of ad production is coupled with new attribution models and metrics that allow marketers to prove the efficacies of targeted advertising by increasing the integration of third party measurement and analytics companies that can further scrutinize and audit the value of ad impressions (Ha, 2017). This integration likewise reveals a shift in advertising metrics away from 'intermediate metrics' towards measuring brand affinity and sales lift, or put differently, towards measuring and rewarding the economic performance of advertising impressions according to specific empirical objectives (Facebook, 2017b). For example, Facebook's Advertiser Outcome Score (AOS) measures the effectiveness of ads served for driving specific outcomes through 'post-click' performance indicators based on ad placement and type: 'a measurement system that evaluates publisher's ad placements by their ability to drive outcomes for advertisers, such as app installs, purchases, or registrations' (Yin 2015).

The AOS metric performs important economic functions that govern advertising distribution across platforms by providing a metric that demonstrates which ad placements perform best across publishers, and subsequently encourages publishers to adopt ad placement strategies that best correspond to Facebook's understanding of optimization, such as through 'native' ad placements (Hutchinson 2015). The AOS represents an important market device for PBM because the metric seeks to measure how audiences are actually engaging with advertising in order to calculate pricing and placement, in effect translating a heterogeneity of circumstances and variability into a relatively simplistic score into a 'black box' that metricizes the performativity of media algorithms that govern the automated buying and selling of audiences to advertisers (Pasquale 2015). Moreover, the drive towards ad optimization and PBM strategies is also contextualized by longstanding risks of ad fraud in programmatic markets that have placed new pressures on platforms to develop more transparent attribution models.

Consolidations and Consortiums

Although incumbents employ their own identification systems for PBM such as through logging into platforms through user IDs, the wider marketing industry has also internalized PBM as an ideal type episteme of success for the open web by resolving data points generated by cookies into tangible assets, namely, to represent 'people' as known across devices and properties through behavioural and geodemographic methods. PBM is not only sustained by shared values in the marketing industry, but also that epistemologies of success depends on resolving 'points of convergence' that occur between advertising and marketing platforms through data analytics and identity graphs that singularize identity across devices (LePage 2018). Calculating attribution metrics, and in turn the prices publishers can charge, depends on resolving identity by correctly tracking users across large volumes of data

points. This requires various degrees of industry co-operation or reconfigurations of ownership; and while analysts typically characterize the ad tech industry by a distinct lack of co-operation, the introduction of PBM has been seen as a case 'in which a rising tide lifts all boats' (AdExchanger 2017).

This may be because there are fewer boats to float. Although there was a brief lull in 2017 due to speculation that regulations such as the GDPR in Europe would stifle digital marketing innovations, a general trend of consolidating data management platforms has gained momentum as publishers incorporate data analytics to develop PBM insights that mimic the kinds of attribution models and consent frameworks that characterize Facebook, Google, and Amazon. With over \$9 billion in acquisitions in the summer of 2018 alone, there has been a clear upward trend in the valuation and data management platforms whereby the integration of discrete datasets constitutes a larger pattern of platform capitalization for PBM (Kawaja 2018).

There are many examples of consolidating data management platforms for PBM, the Acxiom corporation is a good example of making inroads with PBM solutions as part of a larger strategy to increase its speculative value in a post-GDPR regulatory climate. Acxiom's 2014 purchase of LiveRamp, a PBM data onboarding company supported by over \$16 million in venture capital, allowed Acxiom to integrate offline consumer data (such as purchase data) into its digital marketing applications. LiveRamp has also sought strategic acquisitions in first party data markets, such as by acquiring both Circulate (a data analytics platform for identity management and ad targeting), and Arbor (a PBM data marketplace), in 2016; and purchasing Pacific Data Partners (a global B2B data marketplace with over 50 billion records in its data inventory) in 2018. Currently, Acxiom is in talks of partnering with Sonobi, another PBM platform, that will allow brands to pursue seamless omnichannel identity resolution methods across digital markets.

Acxiom's acquisition of LiveRamp complimented existing efforts to onboard data sets from third party partnerships through its 'IdentityLink' resolution service, including Starcom MediaVest Group, and eBay's transactional data for 'direct matching' using its cross-device and cross-platform Audience Operating System DMP (Liyakasa 2014). The significance of the Acxiom LiveRamp acquisition for \$310 million USD in 2014, hailed by some industry publications as 'one of the most successful acquisitions in the last 10 years' (Hoffman 2018), is purported to give LiveRamp an essential monopoly on data onboarding by allowing clients to resolve siloed data into a unified platform (Shields 2018). Acxiom now sees itself as a PBM company that focuses on targeting 'real people' through identity resolution and omnichannel identity graph technologies that can be leveraged across platforms and publishers (Acxiom 2018).

The standardization of data management platforms across vendors allows companies such as LiveRamp to establish credibility by appealing to the value of data partnerships to unify consumer identities across markets. This permits for the ubiquitous quantification of virtually every aspect of consumer targeting and measurement of ad inventory performance. In 2017, LiveRamp partnered with Drawbridge, a leading digital identity management company, as a preferred partner by layering their 'Connected Consumer Graph' onto the LiveRamp platform, in effect allowing marketers to intensify the resolution of consolidating identity signals across devices by providing 'a universal currency for device-based identity' (Drawbridge 2017). For example, clients of LiveRamp can upload their first-party Customer Relationship Management (CRM) data to LiveRamp servers, which are then analyzed by Drawbridge machine learning algorithms to connect data points into a coherent device graph. A retailer's CRM data could therefore be uploaded to LiveRamp, analyzed by its data and artificial intelligence partners (beyond Drawbridge, there are over 500 such partners in the ecosystem), and consolidated into a holistic PBM solution that yields multi-attribution

insights of ad impressions across markets such as by connecting television and digital impression data with to point-of-sale data, while controlling for specific variables such as time-decay to standardize the calculability of attribution metrics in relation to behavioural changes such as purchase behaviour. LiveRamp has, at the time of this writing, become Acxiom's sole remaining asset following the sale of Acxiom Marketing Solutions for \$2.3 billion to Interpublic Group. Many now speculate its potential for acquisition by major advertising cloud and data platforms such as Adobe and Oracle.

The structural reconfigurations of data management platforms have carried several consequences, including the increasing desire to standardize the socio-technical infrastructure of cookies across media geographies and devices to intensify PBM through platforms beyond Facebook, Google, and Amazon. This is most evident with the rise of identity consortiums that govern the technical standards necessary for PBM's success. These consortiums, the technical standards they advocate, and the subsequent political and economic externalities that follow reflect power struggles between data analytics companies for market dominance using relational epistemologies of identification and classification. Ad ID consortiums standardize third party identifiers such as cookies for programmatic advertising in order to make specific claims of the value of platforms to correctly deliver and measure ad performance in ways that mimic PBM solutions on major publishers such as Facebook. These consortiums demonstrate the cultural economies of attribution metrics because they signify how markets are enacted by socio-technical networks of data analytics companies and technical standards that attempt to render identity, as produced by media identifiers, coherent across a heterogeneity of media properties and platforms, and allowing firms to make specific claims of value and relevance over the marketing production process.

There are two consortiums that each reflect different magnitudes of industry co-operation to consolidate identity signals through data analytics. The Advertising ID

Consortium formed by an amalgamation of data analytics and programmatic companies, and the DigiTrust Consortium by the Interactive Advertising Bureau (IAB), an ad organization that provides research, legal support and develops standards and protocols for digital marketing⁴. DigiTrust, which describes itself as the ‘only truly open, neutral, independent, non-profit ID consortium,’ is an industry-wide collaboration to reduce the amount of third party advertiser requests that require proprietary cookies through a standardized token that can be accessed by all DigiTrust members, including 22 known programmatic platforms (DigiTrust 2018).

In 2017, AppNexus, one of the largest privately owned programmatic exchanges (and in 2018 acquired by AT&T for a reported \$1.6 billion to make inroads into the digital ad market) (Team 2018), launched a PBM identity consortium that included LiveRamp, MediaMath, Index Exchange, LiveIntent and Rocket Fuel (Hercher 2017), to develop a standardized identity framework for programmatic advertising, similar to the deterministic identity solutions offered by Google and Facebook (Shields 2017b). The Advertising ID Consortium (2018) describes itself as an open identity solution for the ad-tech ecosystem governed by industry heavyweights including AppNexus, Index Exchange and LiveRamp. Its board members include AppNexus, Index Exchange, Acxiom LiveRamp, the Trade Desk, and 19 other members that provide programmatic advertising and data analytics solutions for optimizing PBM strategies. Furthermore, the consortium will commit to entering into service agreements with AppNexus to perpetually provide a common device identifier for Consortium members; The Trade Desk to enable the use of this device identifier; and LiveRamp to provide a common people-based identifier.⁵ The specific objective of this data consortium is to develop cross-device identifiers and create shared identity resolution assets, effectively permitting marketers to mobilize data across platforms and intensify the precision

of targeting mechanisms by offering a 'neutral' unique identifier, albeit owned and controlled by LiveRamp.

Efforts to develop industry frameworks for the socio-technical governance of identity in the service of attribution can be observed elsewhere. The Data & Marketing Association (DMA, though previously known as the Direct Marketing Association and one of the oldest trade associations in the marketing industry) has formed the 'Structured Innovation Identity Leadership Council' (Uehlein 2017), (also known as the 'Identity Council') for developing cross-platform identity and attribution measurement solutions. The DMA, a trade organization and lobby group includes on their board of directors high ranking officers from Acxiom, Merkle, Experian, as well as directors from a myriad of tech and marketing companies, lobbies in Washington to advocate for advancing self-regulatory policies through its Direct Voice Political Action Committee for its 1,400 member brands in an effort to maximize the autonomy of capital to aggregate and integrate data into flexible market arrangements. In June 2018, the Association of National Advertisers announced they would be acquiring the DMA to create a lobbying powerhouse to address issues of privacy, data security, and advertising taxes. The deal will effectively make the ANA the single largest trade association in the United States for marketing, representing 2,000 companies, 20,000 brands and 150,000 people, and follows a slew of ANA acquisitions including the Word of Mouth Marketing Association, the Business Marketing Association, and the Brand Activation Association (Smiley 2018). Most recently, a 'consortium of consortiums' is being developed between the LiveRamp and DigiTrust identity consortiums that will allow platforms to continue cross-device targeting (Rodgers 2018). Although it is too early to ascertain the effects of such a partnership, it will likely serve to benefit corporations embedded in PBM solutions and identity resolution across platforms such as LiveRamp. This is precisely why

analysts have been speculating who will buy LiveRamp, with incumbents such as Nielsen, Oracle and Adobe as prime candidates.

Data partnerships represent a parallel market strategy to resolve behavioural and geodemographic data through PBM platforms. For example, the 'Data Innovators' audience segments offered by Gravy Analytics is enabled by a complex of data partnerships between Gravy Analytics and V12 Data's demographic datasets powered Acxiom LiveRamp (Gravy Analytics 2017). This partnership is a direct attempt to fuse online and offline data for people-based, cross-platform marketing strategies by allowing audience segments to be constructed using behavioural and geodemographic data. Gravy Analytics can further refine their existing segments, such as 'Electronics Buyers', 'Health Nuts', and 'Discount Shoppers' with more demographic layers such as income brackets, age, gender, and ethnicity to mimic the logic of geodemographic segments that are produced by fusing data into geographic information systems (Webber & Burrows 2018). This data partnership yields over 400 unique audience segments that can be accessed through LiveRamp's 'IdentityLink Data Store' that can allow marketers to directly target (and only pay for) precise segments.

The liberalization of data brokerage markets have become flashpoints of regulatory debates that, at least in the United States, are being dismantled by the current Trump administration, and will permit internet service providers to sell internet browsing data of its subscribers to advertisers (Dunn 2017). In Europe, the introduction of the GDPR in European markets has led some industry analysts to speculate that PBM will only continue to accelerate in adoption because of the requirement for obtaining direct consent from users and a shift away from cookie-based third party trackers (Sullivan 2018), in effect making the GDPR a potential catalyst for the adoption of persistent identifiers across devices (Rowntree 2018). For example, German publishers, media, e-commerce and ISP businesses have partnered to launch a unified consumer login and consent management product to give consumers control

over privacy preferences that will work across digital properties (Davies 2018), and moreover to provide a PBM solution that can compete against major incumbents. Although it is too early to comprehend the full effects of the GDPR, these forms of industry co-operation could strengthen the consolidation of data analytics industries, and the standardization of consent and identity management platforms that put people at the center of PBM (Baring 2018). The drive towards consolidation embodies the underlying 'winner take all logic' of platforms and the drive towards market share by centralizing the modes of ad distribution and performance measurement across markets (Malik 2015). Analysts predict a future of subscription based business models, in part, because venture capital and private equity firms have inflated the value of key marketing platforms, often by billions of dollars, through acquisitions and sales⁶.

This is not to say PBM has been without problems. LiveRamp's Ad ID consortium has been criticized as 'pay-to-play' arrangement controlled by a conglomerate of large players in the programmatic space, resulting in founding partner MediaMath abandoning the project (Hercher 2018b). In September 2018, it was announced that AppNexus will abandon the Advertising Identity Consortium to focus on 'internal integration', in turn presenting new difficulties for existing members to extract the necessary data from AppNexus domains (Hercher 2018c). This was followed by AT&T's new advertising unit Xandr, that will consolidate advertising markets across platforms including addressable TV and digital using data from its 170 million subscribers (Poggi 2018). While Xandr intends to compete against other PBM walled gardens such as Google and Facebook, AT&T describes their approach as a 'community garden' whereby marketers can incorporate their own attribution models to further extract value and relevant data (Weissbrot 2018b). These forms of distinction reveal the complex internal politics that emerge from infrastructural reconfigurations that seek to translate data points into empirically identifiable, ordered, consenting, and measurable 'people'. Despite the potential externalities of PBM, the acceleration of specific forms of

internal organization through patterns of ownership, industry co-operation, and infrastructural standardization remains a clear pattern.

Conclusion

This paper has explored the significance of PBM business models to theorize the cultural economy of attribution metrics. This extends existing debates into the processes of platform capitalization by examining how new values and business models for audience commodification extend across markets, and is enabled by new forms of consolidation in data analytics industries. As a strategy for growth, PBM embodies the belief that marketing success depends on resolving data to anticipate future forms of identity and ad inventory management so that marketers can expand their reach across digital and offline markets. This is precisely why some are anticipating that outdoor media such as billboards will adopt the technical standards and economics of programmatic in which mundane buying and selling of digital billboard inventory will be distributed by automated exchanges and potentially governed by PBM data (Joseph 2018). In television markets, the distinction between 'linear' and digital is likewise becoming increasingly blurred, in part because of the consequences of PBM consolidation on creating new possibilities for enhancing targeting and measurement through data resolutions and the standardization of inventory across markets (Weissbrot 2018a).

Analytical discussions of platform capitalism have emphasized the multiple techniques of capitalization that underscore speculative values and futures. This paper demonstrated a growing need to situate these processes along patterns of industry consolidation and PBM business models, whereby identification and measurement practices by incumbent platforms diffuse across markets. Discourses that enact claims of knowing specific people rather than digital signals is an epistemic shift in digital marketing, and is

connected with industry consolidation and the mechanisms of speculative valuation for platform futures, particularly the ways that markets are identified and measured along key performance indicators such as attribution models through social and material configurations that translate data into 'people'.

References

- Adams, L., Burkholder, E., and Hamilton, K. 2015. Micro-Moments: Your Guide to Winning the Shift to Mobile. *Think With Google*. Available from: <https://www.thinkwithgoogle.com/marketing-resources/micro-moments/micromoments-guide-pdf-download/> [Accessed 7 September 2017]
- Advertising ID Consortium (2018). Consortium Governance Plan. Available from: <https://static1.squarespace.com/static/5aa84af5a2772cf774dee467/t/5ac29d5a70a6ad72289a6e61/1522703706908/consortium-governance-one-pager-4.2.18.pdf> [Accessed 5 October 2018]
- Acxiom., 2018. People-Based Marketing. Available online: <https://www.acxiom.co.uk/what-we-are-thinking/people-based-marketing/> [Accessed 14 June 2018]
- Andersson Schwarz, J., 2017. Platform Logic: An Interdisciplinary Approach to the Platform-Based Economy. *Policy and Internet*, 9999(9999), pp.1–21.
- AdExchanger. 2017., *Identifying the True Value of Identity*. Available Online: <https://adexchanger.com/the-sell-sider/identifying-true-value-identity/> [Accessed 14 June 2018]
- Ariztia, T., 2018. Consumer databases as practical accomplishments: the making of digital objects in three movements. *Journal of Cultural Economy*, 11(3), pp.1–16.
- Ariztia, T., 2015. Unpacking insight: How consumers are qualified by advertising agencies. *Journal of Consumer Culture*, 15(2), pp.143–162.
- Ash, J. et al., 2018. Digital interface design and power: Friction, threshold, transition. *Environment and Planning D: Society and Space*, pp.1–18.
- Auletta, K., 2018. *Frenemies: The Epic Disruption of the Advertising Industry (and Why This Matters)*, London: HarperCollins Publishers.
- Baring, J. 2018. The Argument Against People-Based Marketing. *MarTechAdvisor*. Available from: <https://www.martechadvisor.com/articles/performance-and-attribution/the-argument-against-peoplebased-marketing/> [Accessed 5 October 2018]
- Barreneche, C. & Wilken, R., 2015. Platform specificity and the politics of location data extraction. *European Journal of Cultural Studies*, 18(4–5), pp.497–513.
- Beck, E.N., 2015. The Invisible Digital Identity: Assemblages in Digital Networks. *Computers and Composition*, 35, pp.125–140.
- Beer, D., 2016. *Metric Power*, New York: Palgrave Macmillan.
- Beer, D., 2017a. Envisioning the Power of Data Analytics. *Information, Communication & Society* 4462 (May): pp. 1–15.
- Beer, D., 2017b. The data analytics industry and the promises of real-time knowing: perpetuating and deploying a rationality of speed. *Journal of Cultural Economy*, 10(1), pp.21–33.
- Boland, B., 2013. Facebook to Acquire Atlas From Microsoft. *Facebook Newsroom*. Available Online: <https://newsroom.fb.com/news/2013/02/facebook-to-acquire-atlas-from-microsoft/> [Accessed 14 June 2018]
- Coalition for Innovative Media Measurement (CIMM). 2016. Lexicon 3.0: Terms and Definitions. Available online: http://cimm-us.org/wp-content/uploads/2016/08/CIMM-LEXICON-3.0_July-2016.pdf [Accessed 11 October 2018]
- Constine, J., 2013. Facebook Confirms It Will Acquire Atlas Advertiser Suite from Microsoft To Close The Ad Spend Loop. *TechCrunch.com* Available online: <https://techcrunch.com/2013/02/28/facebook-acquires-atlas/> [Accessed June 14 2018]
- Crosby, L. A., and Langdon, C. S. (2017). Why Marketers Must Keep Pace With Smart Technology. *The American Marketing Association*. Available from: <https://www.ama.org/publications/MarketingNews/Pages/why-marketers-must-keep-pace-smart-technology.aspx> [Accessed 4 October 2018]
- Curtin, A., 2017. 9 Things you should know about People-Based Marketing. *Visualiq.com* Available

- online: <https://www.visualiq.com/resource-center/newsletter/9-things-you-should-know-about-people-based-marketing> [Accessed 14 June 2018].
- Davies, J. (2018). 'Last chance': German publishers unite on unified log-in to combat the duopoly. *DigiDay UK*. Available from: <https://digiday.com/media/german-publishers-unite-unified-log-in/> [Accessed 1 October 2018]
- Davis, A., 2017. Defining speculative value in the age of financialized capitalism. *The Sociological Review*.
- Deckers, J., 2012. *No bullshit social media: the all-business, no-hype guide to social media marketing*. Indianapolis: Que
- DigitTrust., 2018. About Us. Available online: <http://www.digitru.st/> [Accessed 14 June 2018].
- Drawbridge, 2017. Drawbridge and LiveRamp Partner to Improve Cross-Device Marketing. *WebWire*. Available from: <https://www.webwire.com/ViewPressRel.asp?aId=213212> [Accessed 5 October 2018]
- Dunn, J., 2017. Senate Republicans just voted to give internet providers the green light to sell your web-browsing data without your consent. *Business Insider UK*. Available online: <http://uk.businessinsider.com/republicans-kill-fcc-broadband-privacy-rules-2017-3?r=US&IR=T> [Accessed 14 June 2018]
- Facebook., 2017a. Audience Network: An Effective Way to Extend the Reach of Your Facebook Ads. Available from: <https://www.facebook.com/business/news/audience-network-improvements-and-performance> [Accessed 7 September 2017]
- Facebook., 2017b. Greater Transparency Through Measurement Partnerships. Available from: <https://newsroom.fb.com/news/2017/01/greater-transparency-through-measurement-partnerships/> [Accessed 7 September 2017]
- Forrester (n.d.). Consumer Technographics. Available from: <https://go.forrester.com/analytics/consumer-data/> [Accessed 4 October 2018]
- Frith, J., 2013. Turning life into a game: Foursquare, gamification, and personal mobility. *Mobile Media & Communication*, 1(2), pp.248–262.
- Gerlitz, C. & Helmond, A., 2013. The like economy: Social buttons and the data-intensive web. *New Media & Society*, 15(8), pp.1348–1365.
- Gewelber, L., 2015. Why Consumer Intent is More Powerful than Demographics. *Think With Google*. Available from: <https://www.thinkwithgoogle.com/marketing-resources/micro-moments/why-consumer-intent-more-powerful-than-demographics/>
- Gillespie, T., 2010. The politics of “platforms.” *New Media & Society*, 12(3), pp.347–364.
- Gravy Analytics., 2017. Gravy Analytics and V12 Data Release New 'Data Innovators' Audiences with LiveRamp. *PRNewswire.com* Available online: <https://www.prnewswire.com/news-releases/gravy-analytics-and-v12-data-release-new-data-innovators-audiences-with-liveramp-300514165.html> [Accessed 14 June 2018].
- Ha, A., (2017). Facebook says it will open up for independent ad audit. *TechCrunch*. Available from: <https://techcrunch.com/2017/02/10/facebook-ad-audit/> [Accessed 7 September 2017]
- Hands, J., 2013. Introduction: Politics, Power and “Platformativity.” *Culture Machine*, 14, pp.1–9.
- Helmond, A., 2015. The Platformization of the Web: Making Web Data Platform Ready. *Social Media + Society*, 1(2), pp.1–11.
- Hercher, J., 2018a. Salesforce Gets Into the ID Graph Game With Launch of Customer 360. *AdExchanger*. Available from: <https://adexchanger.com/data-exchanges/salesforce-gets-into-the-id-graph-game-with-launch-of-customer-360/> [Accessed 25 September 2018]
- Hercher, J., 2018b. Will Ad Tech M&A Derail the Advertising ID Consortium? *AdExchanger*. Available from: <https://adexchanger.com/online-advertising/will-ad-tech-ma-derail-the-advertising-id-consortium/> [Accessed 5 October 2018]
- Hercher, J., 2018c. AppNexus Has Quit The Industry's Ad ID Consortium. Is This The End? *AdExchanger*. Available from: <https://adexchanger.com/online-advertising/appnexus-has-quit->

- the-industrys-ad-id-consortium-is-this-the-end/ [Accessed 5 October 2018]
- Hercher, J., 2017. Consorting With The Frenemy: Ad Tech Players Partner For Shared Identity Matching. *AdExchanger.com* Available online: <https://adexchanger.com/online-advertising/consorting-frenemy-ad-tech-players-partner-shared-identity-matching/> [Accessed 14 June 2018].
- Hoffman, A., 2018. Acxiom's Next Steps And The LiveRamp Acquisition Four Years Later. *AdExchanger.com* Available online: <https://adexchanger.com/data-driven-thinking/acxioms-next-steps-and-the-liveramp-acquisition-four-years-later/> [Accessed 14 June 2018].
- Hutchinson, A. 2015. Facebook Introduces 'Advertiser Outcome Score for Audience Network Ads. *Social Media Today*. Available online: <https://www.socialmediatoday.com/news/facebook-introduces-advertiser-outcome-score-for-audience-network-ads/453352/> [Accessed 11 September 2018].
- Interactive Advertising Bureau (IAB)., 2018. *IAB Attribution Hub*. Available online: <https://www.iab.com/guidelines/iab-attribution-hub/> [Accessed 14 June 2018]
- Interactive Advertising Bureau UK (IAB UK)., 2014. *Viewable Ad Impression Measurement Guidelines*. Available online: <https://www.iabuk.com/sites/default/files/Viewable%20Ad%20Impression%20Guidelines.pdf> [Accessed 14 June 2018].
- Isin, E. & Ruppert, E., 2015. *Being Digital Citizens*, London: Rowman & Littlefield.
- Joachimsthaler, E. 2015. The Flight of the Bumble Bee: Marketing in the Age of Micro-Moments. Available from: <https://www.linkedin.com/pulse/flight-bumble-bee-marketing-age-micro-moments-erich-joachimsthaler> [Accessed 7 September 2017]
- Joseph, S., 2018. Outdoor Advertising Braced for its Programmatic Moment. *Digiday UK*. Available from: <https://digiday.com/marketing/outdoor-advertising-braced-programmatic-moment/> [Accessed 5 October 2018]
- Kawaja, T. The 2018 Summer of Data. *AdExchanger*. Available from: <https://adexchanger.com/data-driven-thinking/the-2018-summer-of-data> [Accessed 18 September 2018]
- Lahey, M., 2016. Invisible actors: Web application programming interfaces, television, and social media. *Convergence: The International Journal of Research into New Media Technologies*, 22(4), pp.426–439.
- Langley, P. & Leyshon, A., 2016. Platform capitalism: the intermediation and capitalisation of digital economic circulation. *Finance and Society*, EarlyView, pp.1–21.
- Langlois, G. & Elmer, G., 2013. The research politics of social media platforms. *Culture Machine*, 14, pp.1–17.
- LePage, A., 2018. Is Your People-Based Marketing Stacked For Success? *AdAge*. Available Online: <http://adage.com/article/neustar/people-based-marketing-stacked-success/312077/> [Accessed 14 June 2018]
- Liyakasa, K., 2014. EBay, Acxiom Strike 'Direct Matching' Deal, As Acxiom Makes International Push. *AdExchanger.com* Available online: <https://adexchanger.com/data-exchanges/ebay-acxiom-strike-direct-matching-deal-with-aos-push-abroad/> [Accessed 14 June 2018]
- Mackenzie, Adrian. 2018a. "Personalization and Probabilities : Impersonal Propensities in Online Grocery Shopping." *Big Data & Society*, no. June: 1–15. doi:10.1177/2053951718778310
- Mackenzie, A., 2018b. From API to AI : platforms and their opacities. *Information, Communication & Society*, 0(0), pp.1–18.
- Mackenzie, A., 2018c. 48 million configurations and counting: platform numbers and their capitalization. *Journal of Cultural Economy*, 11(1), pp.36–53.
- Malik, O. 2015. "In Silicon Valley, It's Almost Always Winner Takes All." *The New Yorker*. Available Online: https://www.newyorker.com/tech/elements/in-silicon-valley-now-its-almost-always-winner-takes-all?utm_source=pocket&utm_medium=email&utm_campaign=pockethits

- Marshall, J. 2014. What Marketers Need to Know About Facebook's Atlas. *The Wall Street Journal*. Available Online: <https://blogs.wsj.com/cmo/2014/09/29/what-marketers-need-to-know-about-facebooks-atlas/> [Accessed 14 June 2018]
- Moor, L. & Lury, C., 2011. Making and Measuring Value. *Journal of Cultural Economy*, 4(4), pp.439–454.
- Murphy, E.R., 2008. Neuroethics of neuromarketing. *Journal of Consumer Behaviour*, 12(4), pp.253–266.
- Pasquale, F., 2015. *The Black Box Society The Secret Algorithms That Control Money and Information*, Cambridge, MA: Harvard University Press.
- Pasquale, F., 2016. Two Narratives of Platform Capitalism. *Yale Law & Policy Review*, 35(1), pp.309–319.
- Peterson, T. 2016. Facebook's Ad Volume Has Grown for the First Time in Two Years. *Advertising Age*. Available from: <http://adage.com/article/digital/facebook-q4-2016-earnings/302378/> [Accessed 7 September 2017]
- Plantin, J.-C. et al., 2016. Infrastructure studies meet platform studies in the age of Google and Facebook. *New Media & Society*, pp.1–18.
- Poggi, J., 2018. AT&T Invokes Alexander Graham Bell as it Names Its Ambitious High-Tech Ad Division. *AdAge*. Available from: <https://adage.com/article/media/t-evokes-spirit-alexander-graham-bell-ad-division/315051/> [Accessed 25 September 2018]
- Rodgers, Z. 2018. Ad ID Consortium Joins Forces With DigiTrust. *AdExchanger*. Available online: <https://adexchanger.com/data-exchanges/ad-id-consortium-joins-forces-with-digitrust> [Accessed 21 June 2018]
- Rowntree, L., 2018. GDPR's First 100 Days: What's Next for the Industry? *ExchangeWire*. Available from: <https://www.exchangewire.com/blog/2018/09/11/gdprs-first-100-days-whats-next-for-the-industry/> [Accessed 11 September 2018]
- Ruppert, E., Isin, E. & Bigo, D., 2017. Data politics. *Big Data & Society*, 4(2), pp.1–17.
- Schleifer, D. & DeSoucey, M., 2015. What Your Consumer Wants. *Journal of Cultural Economy*, 8(2), pp.218–234.
- Schwartz, G., 2011. *The Impulse Economy: Understanding mobile shoppers and what makes them buy*, New York: Atria Books.
- Shields, M., 2018. Ad industry execs are buzzing about a potential sale of LiveRamp, one of the most trusted marketing-data platforms. *Business Insider*. Available online: <http://www.businessinsider.com/liveramp-acquisition-data-platform-for-sale-ahead-of-gdpr-2018-5?IR=T> [Accessed 14 June 2018].
- Shields, M., 2017a. Verizon wants to borrow T-Mobile and Vodafone's consumer data to take on Facebook and Google. *Business Insider UK*. Available online: <http://uk.businessinsider.com/verizon-wants-t-mobile-and-vodafone-consumer-data-to-take-on-facebook-2017-6?r=US&IR=T> [Accessed 14 June 2018].
- Shields, R., 2017b. AppNexus leads adtech consortium to enable 'people -based marketing' rivaling Facebook and Google's duopoly. *The Drum*. Available online: <http://www.thedrum.com/news/2017/05/04/appnexus-leads-adtech-consortium-enable-people-based-marketing-rivaling-facebook-and> [Accessed 14 June 2018].
- Sullivan, L., 2018. Advertisers Turn To People-Based Marketing, Plan To Stop Using Cookies. *Search Marketing Daily*. Available from: <https://www.mediapost.com/publications/article/314340/advertisers-turn-to-people-based-marketing-plan-t.html> [Accessed 5 October 2018]
- Skeggs, B., 2014. Values beyond Value? Is Anything beyond the Logic of Capital? *British Journal of Sociology* 65 (1), pp. 1–20
- Skeggs, B., & Yuill, S., 2015. The Methodology of a Multi-Model Project Examining How Facebook Infrastructures Social Relations. *Information, Communication & Society* 4462

- (November), pp. 1–17
- Sluis, S. 2016. How They Did It: ANA Report Details Widespread Agency Rebate Practices. *AdExchanger*. Available online: <https://adexchanger.com/agencies/ana-study-details-widespread-agency-rebate-practices/> [Accessed 11 October 2018]
- Smiley, M., 2018. ANA acquires Data & Marketing Association. *The Drum*. Available online: <http://www.thedrum.com/news/2018/05/31/ana-acquires-data-marketing-association> [Accessed 14 June 2018].
- Smith, H., 2017. Metrics, locations, and lift: mobile location analytics and the production of second-order geodemographics. *Information, Communication & Society*, 0(0), pp.1–18.
- Srnicek, N., 2017. *Platform Capitalism*, Cambridge: Polity.
- Swant, M., 2017. The Facebook Audience Network Now Serves Ads to 1 Billion People Each Month. *AdWeek*. Available from: <http://www.adweek.com/digital/facebook-audience-network-now-serves-ads-1-billion-people-each-month-175516/> [Accessed 7 September 2017]
- Team, T. (2018). Why AT&T Wants to Buy AppNexus. *Forbes*. Available from: <https://www.forbes.com/sites/greatspeculations/2018/06/20/why-att-wants-to-buy-appnexus/#75fa5305c7bc> [Accessed 20 June 2018]
- Thatcher, J., 2017. You Are Where You Go, the Commodification of Daily Life through ‘Location.’ *Environment and Planning A*. 0(0), pp.1-16.
- Turow, J., McGuigan, L. & Maris, E.R., 2015. Making data mining a natural part of life: Physical retailing, customer surveillance and the 21st century social imaginary. *European Journal of Cultural Studies*, 18(4–5), pp.464–478.
- Uehlein, M., 2017. 15 Leading Companies Unite to Address Cross-Channel Identity and Attribution. Available online: <https://thedma.org/news/15-companies-unite-to-address-cross-channel-identity-and-attribution/> [Accessed 14 June 2018]
- Viant., 2018. Viant About Us. Available online: <https://viantinc.com/about-us/#history> [Accessed 14 June 2018].
- Weissbrot, A., 2018a. Turner Ad Sales Boss Donna Speciale Wants To Blur The Line Between Linear And Digital. *AdExchanger*. Available from: <https://adexchanger.com/tv-2/turner-ad-sales-boss-donna-speciale-wants-to-blur-the-line-between-linear-and-digital/> [Accessed 4 October 2018]
- Weissbrot, A., 2018b. Will AT&T’s ‘Community Garden’ Have Walls? *AdExchanger*. Available from: <https://adexchanger.com/platforms/will-atts-community-garden-have-walls/> [Accessed 5 October 2018]
- Wilson, M.W., 2012. Location-based services, conspicuous mobility, and the location-aware future. *Geoforum*, 43(6), pp.1266–1275.
- Wolk, A., 2018. Free HBO And All That Data: Dissecting The AT&T Time Warner Decision. *TVRev.com* Available Online: <http://tvrev.com/att-time-warner-decision-no-surprise/> [Accessed 14 June 2018]
- Wu, T., 2016. *The Attention Merchants: The Epic Struggle to Get Inside Our Heads*, London: Atlantic Books.
- Yin, H., 2105. A New Metric to Optimize Your Audience Network Performance. *Audience Network by Facebook (Blog)*. Available from: <https://www.facebook.com/audiencenetwork/news-and-insights/advertiser-outcome-score> [Accessed 7 September 2017]
- Zuboff, S., 2015. Big other: Surveillance capitalism and the prospects of an information civilization. *Journal of Information Technology*, 30(1), pp.75–89.
- Zwick, D. & Denegri Knott, J., 2009. Manufacturing Customers: The database as new means of production. *Journal of Consumer Culture*, 9(2), pp.221–247.

¹ E-mail: harrison.smith@newcastle.ac.uk
orcid.org/0000-0001-8144-5754

² See for example: Deckers (2012) for an example of how vernacular discourses of marketing and ad tech conflict, and how actors sometimes push-back at 'marketing bullshit', and Auletta (2018) for a recent analysis of the impact of Silicon Valley on advertising culture.

³ The Association of National Advertisers commissioned a 2015 study of ad fraud and media rebates that, most recently, has been under investigation by the FBI as a potential criminal case into US media buying practices.

⁴ See <https://www.iab.com/>

⁵ <https://www.adidentity.org/>

⁶ For example, Vista Equity Partners in 2016 purchased Marketo for \$1.8 billion, and in 2018 sold it to Adobe for \$4.8 billion.