Consumer Surveillance and Big Data

Professor Kirstie Ball, St Andrews University, The Gateway, North Haugh, St Andrews, Fife KY16 9RJ.

Big Data: the latest in the consumer surveillance genealogy

In this short paper I explore Big Data as the latest development in a line of consumer-surveillance marketing practices. As a marketing practice, Big Data analytics seeks to exploit a wide spectrum of IT innovations to create value from an extensive array of new data-generating sources used by consumers. The aim is to produce new insight into consumer behaviours and preferences so that they can be better targeted by marketers in real time and that their intentions can be predicted with a greater degree of accuracy (Jobs et al 2015). Due to the availability of very fine-grained qualitative and quantitative data about consumers, big data allows individual consumer behaviours to be seen in their social, economic, and cognitive contexts and therefore understood in greater depth (Goes, 2014).

When viewed through a surveillance studies lens Big Data is instantly problematic. In comparison with its predecessors, by virtue of its pre-emptive impulses and the detailed data it incorporates a more penetrating gaze into consumers’ lives is created. As Big Data draws on data streams from social and online media as well as personal devices designed to share data, consumers have a limited ability to opt out of data sharing (Ball, Di Domenico and Nunan 2016). Consumers can therefore exert comparatively less control over their personal data flows as their mundane consumption activities become highly significant and subject to scrutiny. Their subjection to the social sorting which results from the classification of those data is comparatively intensified. Those companies who are in a position to exploit the value created by big data analytics enjoy powerful market positions. It would seem to be an open and shut case: Big Data is surveillant and ramps up the ethical, discriminatory and social justice dangers associated with previous iterations of consumer surveillance.

However, surveillance studies also concerns itself with the alignments between corporate and other actors which bring surveillant practices like Big Data into being. It is in this terrain that the political economy as well as the labours of big data can be foregrounded, so that the work involved in creating new visibilities can be understood. Addressing the mid-range of big data - the mesh of organizations which mediate between the end consumer and the marketer of products - reveals how the influence and power of Big Data analytics is far from a done deal. Following Pridmore and Zwick (2011) Big Data Consumer Surveillance is viewed as simultaneously panoptic, modular and contingent in terms of its outcomes. Data analytics are as important in the production of those who consume as it is in the consumption of what is produced. After reviewing some of the attributes of Big Data, this paper reviews how Big Data may be changing the nature of marketing work and the nature of consumers’ engagement with marketing practices. It will harness the latest thinking to generate key questions for the Big Data Surveillance project.

Exploring the mid-range: Marketers...

Marketing has been a data-intensive business practice since the emergence of marketing management and relationship marketing in the 1970s. Marketers have consistently sought to use data about customer characteristics and behaviours to enable them to improve offerings and to enhance the likelihood of repeat purchase and customer loyalty (Pridmore and Zwick 2011). Various iterations of surveillant marketing practices have emerged: direct marketing, which emphasizes continuity of direct contact with existing customers, one-to-one (see, for example, Peppers and Rogers, 1993), and database marketing, supported by the improvement and general availability of customer data (Sheth and Parvatiyar, 1995). Customer relationship management (CRM) along with loyalty programmes serviced by in-bound and out-bound technologically enhanced call centres were another set of tools used to exploit data (Ballantyne et al 2003). CRM has consistently caught the attention of surveillance
scholars by its routine use of data mining, consumer profiles and surveillance-intensive organizational forms such as the call centre.

Whilst being presented as a fundamentally new organisational strategy, the technologies that drive Big Data can be seen as incremental in the context of the growth of information technology, particularly as used in marketing, over the last four decades. Looking beyond the volume of data, a key consequence of Big Data is the way it serves to break down boundaries between different sources of data, thus allowing the combination of information from different social domains. Consumer’s mundane everyday activities are at the heart of the value creation. One practical consequence of Big Data is the increasing reliance on predictive analytics. This represents a shift away from segmenting or profiling an abstraction of individual characteristics into groups and a move towards the use of continually adjusted quantitative models to predict human behaviour on an individual level. Such analytical techniques serve to enable surveillance of future behaviour – what Nigel Thrift calls ‘The Political Economy of Propensity’ rather than current or past behaviour (Thrift, 2008; Palmås, 2010; Siegel, 2013). Because of ubiquitous media and its reliance on complex analytics to convey different messages to users, Savage (2013) has argued that these analytical methods now are the stuff of social life. Their instantaneity and ubiquity mean that data analytics are much more lively and ‘in-use’, rather than applied post-hoc to a dataset.

When examining Big Data Surveillance as an element of marketing practice, it is important to heed the critical marketers who have been keen to point out that marketing as practiced differs significantly from its portrayal both in the trade press and in mainstream textbooks. Mainstream, hegemonic marketing discourse, they argue, is heavily technical, rational and denies politics, privileging scientifically rational marketing ‘tools’ as holding ‘the answer’ to marketing problems (Brownlie et al, 1997; Hackley, 2003; Morgan, 2003). Critically, Skålen et al (2006) attributes the determinism afforded to tech-dominant surveillant marketing practices such as Customer Relationship Management, segmentation and targeting to this narrow and problematic discourse. Industry discussions around Big Data also privilege this discourse, but rather than viewing it as a reified apparatus of activities it is more productive to treat it as something which is an inherently contested and highly contingent aspect of marketing work.

Marketing work has only recently emerged as an object of study and yet the departure point, remarkably, converges on the notion that the technically rational, mechanistic marketer is something of a myth (Svensson, 2007). Marketing work is performed not only by marketers within the organization, but also marketing intermediaries, such as agencies and, of course, consumers (Skålen and Hackley 2011). Empirical examinations of marketing work focus on, among other things, the importance of marketers’ experiences and values, particularly around creativity (Rallapalli et al 2000); the uncertainties and dilemmas of marketing decision making (Lien 1995; 1997) particularly its ambiguous character (Kover and Goldberg 1995) and its gendered nature (Alvesson 1998). And while hegemonic technical marketing discourses are quite positivist in the connections they make between data, profiling and value creation, there is also a body of research which demonstrates that in many contexts marketeers struggle for professional legitimacy and influence (Moeran 2005; Kover and Goldberg 1995).

Ultimately, the work done by marketers constructs markets, enacts consumers and multiple cultural categories, making them, as Aritzia (2014) argues, ‘sociologists at large’ (see also Burrows and Gane 2006; Sunderland and Denny 2011; Dávila, 2001; Lamont and Molnár, 2001) Typically, this involves the combination of many different forms of knowledge (Cochoy 2008; McFall 2011) including that generated by ‘big data’, to create the all-important ‘customer insight’ so that customers may be accurately targeted by advertising. To marketers, insight is something that not only feels like a depth or truth about the individual, but is a truth which is ‘revealed’ after professional work, and is something of which the consumer is unaware. The point of advertising hence is to make the consumer aware of
this ‘truth’, but the picture of the consumer which emerges to the advertiser is one which is necessarily delimited and distilled. The process of generating insight, according to Aritzia (2015), has two features. First, marketers extensively mediate between progressive definitions of products and consumers until they reach something that feels stable (Cronin 2004b). Second, marketers enact a heavily stylised, purified (Latour 1993) consumer, whose attributes connect a collectivity of consumers to a feature of a good or service. Producing an insight means making visible and concrete (and therefore using) a possible connection between a consumer and good qualities: between dispositions and dispositives (Aritzia 2015: 144).

As was the case with Customer Relationship Management, Big Data runs the risk of becoming a catch-all phrase covering many aspects of marketing practice which involve data about customers, when in practice it is a set of fragmented ideas with multiple contingencies (Egan 2003). For marketers, big data analytics may inform many aspects of marketing strategy: the choice of media channel, the personalisation or recommendation system an organization adopts or how user-generated content, online reviews and social networks are handled. Indeed, Goes (2014) notes the plethora of cringingly problematic ‘wild forecasts’ about Big Data which focus marketing practitioners on the potential, but not the reality of getting to grips with it in practice:

“Information is the oil of the 21st century, and analytics is the combustion engine.” (Peter Sondergaard, Gartner Group)
“Data is the new science. Big Data holds the answers.” (Pat Gelsinger, EMC)
“Data are becoming the new raw material of business.” (The Economist 2010)

Harnessing big data for competitive advantage depends on the current state of affairs in econometrics, machine learning, semantic web and network analysis as well as statistics (see sccecr.org), and the effective diffusion of any innovations to practitioners. In fact, it mounts an interdisciplinary (and expensive) challenge to organizations who wish to gain competitive advantage out of enhanced consumer insight and visibility (Zwick and Denegri-Knott 2009). Not only do marketers have to navigate the range of data-based businesses who will help them to generate consumer ‘insight’, they also need to adapt strategies and skillsets to keep up with the competition. In 2012, Advertising Age commented “Not since the phrase "social media" have two words so overtaken our industry. From the Barack Obama re-election campaign to Unilever to Sony, everyone is panning the data rivers for marketing gold. And unlike other "ad land" trends, the consensus seems that this one is relevant to the bottom line. You can't get by with a guru for big data. You need an actual scientist’ (Advertising Age, 2012)

Marketing practitioners are faced with a baffling array of choices emerging from the Big Data ecosystem each of which is seemingly critical for success. New types of organization, or ‘analytical competitors’ (Degli Esposti, 2014) have emerged. Each seeks to peddle a particular facet of insight to the marketing practitioner helping them to render consumers visible in more ways, and in more detail (Jobs 2015):

- **Big Data Investors**, typically in the high-tech or media sectors whose main value proposition is the exploitation of very large proprietary datasets. Examples include Google, Oracle, EBay and Time Warner.
- **Demand Side Platforms and Real Time Bidders**, who automate the purchase of advertising in video, mobile applications and search engines. Advertising is purchased algorithmically, and very cheaply, based on where consumers are at the time. This is controversial in the advertising world as it is usually a human-human transaction.
- **Data Management Platforms** are huge data warehouses which help marketers integrate their own CRM data with public databases, broadcast data, economic or public competitor data to help them profile their customers better.
• Media Mix Modellers are able to predict where the best place is for companies to place advertising, to get the highest number of consumers visiting a website or the highest number of sales.

• Digital and Full-Service Agencies, based on the traditional advertising agency, but who focuses exclusively on real-time responsible internet advertising. They may offer services involving other types of organization listed above.

As well as choosing the application for any big data activities, and, if required, the service provider, big data is beginning to reconfigure the marketing profession. More creative, empathetic, non-technical marketers are beginning to feel marginalised, as big data analytics claims to generate insights previously gleaned through more qualitative, long-winded forms of market research and sustained professional reflection (Krajicek, 2014). Combining big data with traditional ethnographic market research techniques is, however, still seen as a desirable goal by industry commentators (Wilson 2015; McNeal 2016). Furthermore, the basic statistical techniques which were used in traditional market research are becoming obsolete, with demand increasing for those skilled in complex multivariate statistical inference, network analysis and identifying data sources (Krajicek 2013, 2015). As with CRM, firms are likely to engage with Big Data with varying degrees of sophistication (Dibb and Meadows 2004). Companies may own or have access to huge datasets, but without a clear marketing strategy for using the data, sensitivity in data interpretation, an understanding of the provenance of the data being used, or an awareness of the ethical, privacy and surveillant consequences of data use (c.f. the Target data breach), it may add little value or even damage reputation.

A final, yet critical point, is that big data in marketing settings may actually render marketing professionals more accountable, placing their performance under greater surveillance (Jobs et al 2015). In the media advertising world, predictive analytics are now being applied to integrated marketing communications, causing marketers to choose a mix of media channels, with advertisements supporting each other on different channels. It is possible for advertisers to tweak placement according to demand, as predicted by the analytics. However it is also possible to measure advertising campaign performance against the predictions, which places those who design the campaigns under a new level of scrutiny.

For marketers, then, the quality of the connection made with the consumer, through the deployment of insight, is their raison d'être. The consumer is constructed as an outcome of marketing practices, preferably with no embodied knowledge that they are so constructed. Insight gleaned from Big Data is purported to give greater all round insight into ‘truths’ about consumers, but big data practices have the potential to disrupt the marketing profession and render marketers equally visible and accountable for their decisions.

…and consumers

If marketing discourses were to have their way, understanding big data surveillance from a consumer point of view might simply be a question of examining what it must be like to be at the other end of the connection, to experience the moment when one’s desire is ignited by marketing. The absurdity of this statement serves to highlight marketing as a rarified and calculating set commercial practices. Kuempel (2016) comes close to expressing how the rolling categorisations of consumer insight produced by big data may perpetuate disadvantage and affront human dignity:

Simply seeing that a data broker knows that you are single between the ages of fifty and seventy-five is no cause for alarm. Seeing that a data broker has tagged you as an “older, down-scale and ethnically-diverse single” typically “between the ages of 50 and 75” who is part of the “underclass of the working poor and destitute seniors without family support,” however, is a completely different story. (2016:222)
Surveillance scholars have also argued that consumer enrolment in big data surveillance through prosumption (i.e. data provision and consumption of products) is ethically difficult because it constitutes immaterial labour (Murakami Wood and Ball 2011); it exploits human vulnerabilities to create value (Ball 2009) and it perpetuates cumulative disadvantage (Gandy 2010). The mainstream marketing academy is even beginning to engage with, what it terms, ‘The Dark Side of CRM’ (Nguyen, Simkin and Canhoto 2016; Okada 2014). Here, arguments focus on the distributive justice consequences of what is perceived as ‘favouritism’ by consumers, as firms use consumer data to discriminate on price, service quality, communication, and customisation. Developments in critical marketing (Lee et al, 2009) and innovation studies (Kleijnen et al, 2009) have also started to conceptualise consumer resistance to products and services because of these and other inherent risks in their consumption. Typically, consumers postpone, reject or actively oppose products or services because of the risks they impart.

Big data certainly harbours risks for the consumer. In addition to the issues discussed above, privacy invasion merits discussion. Information privacy is part of the economic exchange between a consumer and a service provider because customer information is supplied to the provider as part of the transaction (Ashworth and Free 2006) – and in a big data environment, is likely to shape when, where, how and if a transaction is to take place. Research conducted prior to the emergence of big data suggests that consumer risk perceptions around information privacy depend on the product domain (Baker et al 2006) the technology deployed (Milne and Bahl 2010), consumer segment (Milne and Rohm 2000) and prior negative experience with data breach (Miyazaki 2008; Okazaki et al 2009). As far back as 1997, Lisa O’Malley and colleagues demonstrated empirically that what marketers describe as ‘consumer intimacy’ (now insight), consumers describe as ‘intrusion’ (O’Malley et al 1997). But in a big data environment, traditional privacy protections such as consent or anonymization become irrelevant, even though privacy commissioners insist that it is a problem which needs to be solved. Furthermore, the nature and location of data processing make it near impossible for companies to write privacy policies which are intelligible to consumers (Barocas and Nissenbaum 2014). This is notwithstanding the fact that historically, privacy policies were written in obtuse and obfuscatory language, privacy seals were erroneously applied where sites actually had weak privacy protection; companies were not accountable in the event of a privacy breach and falsely claimed their websites had strong privacy protection (Nehf 2007). With privacy challenges and consumers embedded and seduced in an online world, then what is the way forward for research? One line of enquiry concerns data donation, where individuals’ altruistic intentions are engaged to provide data in, for example, a smart city context. In full knowledge of data use, individuals could be encouraged to articulate the acceptable conditions under which their data are shared and used, in order to derive user-friendly privacy policies and ethical limits to data analysis.

Ultimately, Big Data Surveillance means that we need to think about the surveilled subject differently. When we consider what the ‘Big’ in ‘Big Data’ refers to, the etymology of the term encourages a focus on the volume of data. It refers in fact instead more to the ubiquity of data, the completeness of coverage over contemporary lives. It is this ubiquity, the knowledge of a near complete record of individual lives, which removes the need for a priori decisions on commencing surveillance. In democracies, with clearer legal protections of the line between public and private, Big Data extends existing surveillance technologies in its ability to co-opt the key economic actors - the corporations - and thus gain a window into the private. The levels of ubiquity in terms of data collection, previously only available in tightly controlled political environments, are therefore now available universally. More than this, through the increasingly embedded role of online social networks and location sensitive mobile devices in social activity, the boundaries between surveillance and the surveilled subject become blurred. When specifically quizzed about privacy, as they were in the research cited above, subjects express familiar ethical concerns. However, the question to be grappled with in this project is how we think about the surveilled subject for the rest of the time. Big Data succeeds in extending the
scope of surveillance by co-opting individuals into de facto surveillance of their own private lives, offering a challenge to contemporary understandings of the surveilled subject. Ball, DiDomenico and Nunan (2016) proposed a new focus on the lived normativities which stem from bodily engagement in socio-technical practices and which render Big Data Surveillance more or less proximal to the subject. To engage as a big data surveilled subject is to come to terms with the proximity of the competing normativities which arise in digitally mediated settings and to come to terms with the manipulation and normative steering to which one is subject. What are the miniscule doubts, dilemmas, and hunches – so often experienced as visceral sensations – around these practices? What questions do subjects have about them and by what rationales do they comply? And to what extent are there patterns within and between different domains of practice in relation to how these normativities are circulated, mobilised and lived? Such a phenomenon can be studied in the flux and flows of everyday life, without necessarily directly referring to surveillant data streams.

Conclusion

Big Data consumer surveillance can simply be described as business intelligence on a grand scale, and the overwhelming focus on Big Data has been about the potential positive impacts on corporations and societies, primarily in terms of cost ‘efficiencies’ (Manyika et al., 2011). Some, however, have questioned its ethics given that it is so grounded in data streams taken from individuals as they use everyday technologies. By definition, this renders those whose data are incorporated in any Big Data activity a surveilled subject, compromises privacy and has broader social implications (Boyd, 2010). To explore some of these issues, the research questions which will be pursued will include the following:

- What are the boundaries of data collection and use for consumers in a big data environment
- What strategies are consumers using for resisting big data
- Under what circumstances do consumers experience subjectivity to big data surveillance
- What alternative rights frameworks can be used to problematize big data
- In what way are big data analytics changing marketing work
- What new visibility regimes is big data opening up in the marketing profession
- How is insight constructed in the big data environment

Superb opportunities remain to explore the dynamics of the heavily intermediated chains of actors which make up big data consumer surveillance, and their connection, however tenuous, with consumers.

References


Aritzia T (2014) Housing markets performing class: middle-class cultures and market professionals in Chile The Sociological Review 1 - 21


Ball, K, M DiDomenico and D Nunan (forthcoming, 2016) Big Data Surveillance and the Body Subject *Body and Society*


Ballantyne, D, M Christopher and A Payne (2003) Relationship marketing: looking back, looking forward *Marketing Theory* 3 (1) 159 166

Barocas, S and H Nissenbaum (2014) Big Data's End Run Around Procedural Privacy Protections *Communications of the ACM* 57 (11) 31 - 33


Goes, P B (2014) Editor’s Comments: Big Data and IS Research *MIS Quarterly* 38 (3) iii-viii/September 2014


Milne, G and A J Rohm ( ) Consumer Privacy and Name Removal Across Direct Marketing Channels: Exploring Opt-In and Opt-Out Alternatives *Journal of Public Policy and Marketing* 19 (2) 238 - 249
Miyazaki, A () Online Privacy and the Disclosure of Cookie Use: Effects on Consumer Trust and Anticipated Patronage *Journal of Public Policy and Marketing* 27 (1) 19 - 33


Murakami Wood, D and Ball, K (50%) (2013) Brandscapes of Control: Subjects and Space in Late Capitalism. *Marketing Theory* 13 (2) 47 -67


O’Malley, L, M Patterson and M Evans (1997) Intimacy or Intrusion The Privacy Dilemma for Relationship Marketing in Consumer Markets *Journal of Marketing Management* 13 541 - 559

Okada, T (2014) Third Degree Price Discrimination with Fairness-Concerned Consumers *The Manchester School* 82 (6) 701- 715

Okazaki, S, H Li and M Hirose () Consumer Privacy Concerns and Preference for Degree of Regulatory Control: A Study of Mobile Advertising in Japan *Journal of Advertising* 38 (4) 63 - 77

Palmás, K (2010) Predicting what you’ll do tomorrow: Panspectric surveillance and the contemporary corporation *Surveillance and Society* 8 (3) 338 - 354


Svensson, P (2007) Producing marketing: towards a social-phenomenology of marketing work
*Marketing Theory* 7 (3) 271-290

