

Workshop Report

New Lines of (In)Sight: Big Data Surveillance and the Analytically Driven Organization

Professor Kirstie Ball, University of St Andrews

Professor William Webster, University of Stirling

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Research Workshop Summary

This research workshop was held at the Stirling Highland Hotel on the 4–5 June 2018 in Stirling, Scotland. It was a research workshop of the Big Data Surveillance Partnership Grant funded by the Social Sciences and Humanities Research workshop of Canada. The programme for the workshop is attached to the end of this report.

The workshop brought together research currently being undertaken across the social sciences which concerns how big data analytics produce and construct surveillance in business and marketing settings. A list of workshop participants is attached to the end of this report. Framed in the world of marketing practice as the creation of new insight, the workshop examined big data analytical activities critically, as producing surveillant lines of sight. Although marketing was the focus, the perspectives of multiple stakeholders featured in the workshop's proceedings. Alongside marketers and consumers, the perspectives of a range of stakeholders were considered, including: citizens, third sector organizations, public authorities, workers, engineers, computer scientists, regulators, tech startups, big tech, parents, children and young people.

The workshop was a curated encounter between previously unacquainted surveillance, communications and business scholars. In this encounter linkages and overlaps in the conceptual and empirical terrain around commercial applications of Big Data were explored. Several themes emerged from the workshop:

- 1. The analytics industry is influencing a wide range of practice domains.** It is apparent that big data processes are central to the rationale and logic of many contemporary organisations, with such processes shaping internal and external dynamics and relationships. Understanding these processes is central to understanding modern society.
- 2. Work is underway to decloak the ethical and social justice consequences of big data.** As a surveillance practice, big data raises issues related to the ethical, discriminatory and justice dangers of social sorting. This prompts further questions

about the ways in which big data processes can be cloaked and decloaked by various interested actors in order to understand and eradicate such harms.

3. **. Big Data Analytics are reshaping marketing work and engender new forms of digital labour** in commercial consumer data modelling. Insights are produced by data scientists who work in the mesh of organizations which mediate between the end consumer and the marketer of products. It is in this terrain that the work involved in creating new insights can be understood.
4. **Big Data infrastructures are penetrating into the fabric of domestic and family life.** It is often surprising to read about the extent to which the corporate and other actors which bring new lines of marketing insight into being are interconnected and aligned. Sometimes these are visible to consumers but more often they are not.
5. **Anxiety, hype and persuasion about big data capture the attention of marketing professionals** in the implementation of analytics. Big data practices have the potential to disrupt the marketing profession, and render marketers equally visible and accountable for their decisions. Nonetheless high levels of hype and persuasion exist in the analytics industry which are designed not only to engage marketers with the services of data companies but also to develop their professional identities as data savvy marketers.

1. The analytics industry is influencing a wide range of practice domains

It is evident from the contributions presented during this workshop that the (big) data driven organisation is becoming more prevalent in modern society and that the practices associated with data analytics is shaping organisational structures and relationships with customers and service users. Processes and practices associated with big data are embedded in the logic of these organisations and are central to service delivery, product development and public policy. This, in turn, privileges the role and influence of data scientist in the organisational setting as well as disadvantages those with limited knowledge of data processes or how to interpret and utilise big data effectively. This raises further questions about the data literacy in organisations and the most effective way of managing data scientists.

During the course of this workshop big data practices were explored in a range of organisational settings, from marketing companies, to large multinational tech companies, small start-ups and public agencies. Part of this picture was the complex interrelationships between public and private sectors and the data flows in and around these arrangements. The role of big data processes were explored in these different settings, how they are used strategically, for marketing, to enhance the consumer experience, to survey labour processes and to shape public policy. Combined, the contributions are opening up the black box of organisational life and highlight the importance of developing surveillance theories and concepts that are sympathetic to organisational theory and practice.

2. Work is underway to decloak the ethical and social justice consequences of big data

When viewed through a surveillance studies lens Big Data becomes problematic. In comparison with its marketing predecessors, such as customer relationship management,

and by virtue of its pre-emptive impulses and fine grained data sources it creates a more penetrating gaze into consumers' lives. 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. Consumers can therefore exert comparatively less control over their personal data flows as their mundane consumption activities become highly significant and social sorting is intensified. For consumers, information privacy is part of the economic exchange between consumer and service provider where customer information is supplied as part of the transaction. In a big data environment, this information transfer is likely to shape when, where, how and if a transaction is to take place. In a big data environment traditional privacy protections such as consent or anonymization become less relevant. Furthermore, the nature and location of data processing make it near impossible for companies to write privacy policies which are intelligible to consumers. Big Data Analytics, by virtue of its pre-emptive impulses and fine grained data sources ramps up the ethical, discriminatory and social justice dangers associated with previous iterations of consumer surveillance. To preserve competitive advantage, data companies cloak their big data processes: to understand the ethical and social sorting issues, academics, activists and other interested parties seek to decloak them.

A number of papers addressed these issues. Lina Dencik set out the problem of algorithmic discrimination, particularly in criminal justice contexts, and the agenda for the challenge of these practices. Sara Degli Esposti gave a fine grained analysis of the sources of opacity in algorithms and proposed a range of audit approaches with which they could be decloak. Jedrek Niklas covered the issue from a legal advocate's perspective and concluded that data discrimination was a concept that needed to gain traction with legal advocates fighting discrimination cases across Europe. Papers which detail the actions taken by citizens and consumers to safeguard their rights in big data analytical settings also contributed to this emergent theme. Caroline Lancelot Miltgen reported on a range of studies she has conducted with consumers which suggested that they cared about their privacy enough to want to take action to protect it. She then outlined the different barriers faced by consumers in this endeavour, some of which related to the complexity and legibility of big data practices. Another issue concerned data donation. With 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. Theoretical perspectives on data donation were offered by Jorge Campos. A further theoretical concept is that of digital citizenship. Arne Hintz outlined how digital citizenship may become an umbrella concept for rights claims, citizen empowerment, activism and advocacy around data practices.

3. Big Data Analytics are reshaping marketing work and engender new forms of digital labour

Data analytics are as important in the production of those who consume as they are in the consumption of what is produced. The work done by data scientists and marketers in analytical settings constructs markets, enacts consumers and multiple cultural categories. Typically, this involves the combination of many different forms of knowledge, including that generated by 'big data', to target consumers accurately with advertising and gather data about their purchasing behaviours to further inform behavioural models. Insight is something that is 'revealed' after professional work: data analysis, model construction, and interpretation. A heavily stylised, purified consumer, whose attributes connect a collectivity of consumers to a feature of a good or service, is the result.

Four papers emerged as central to this theme although the theme also features in papers discussed under theme 1: 'cloaking and decloaking'. First, Josh Lauer provided crucial historical perspective in his discussion of credit scoring. He argued that compulsory and inclusive data sharing on one's transaction history has been central to the construction of creditworthiness since the mid 1800s. Whilst the same is true today, the sheer volume of data provided by consumers analytics now means that a key component of contemporary analytical practice is the exclusion of data that does not fit a model generated by an algorithm in order to eradicate errors. Tomas Aritzia revealed, with an ethnographic study, the multiple rounds of editing, pruning and removal of errors that were required. The fine grained analytical work examined by Tomas was also examined by Yu-Wei Lin. Yu-Wei studied the emotional labour involved in citizen science. Finally Pasco Bilic proposed a Marcusean analysis of this and other forms of unpaid labour, such as that of consumers, in big data ecosystems.

4. Big Data infrastructures are penetrating into the fabric of family life

As a marketing practice, Big Data analytics seek 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. 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. But the enactment of surveillant power using Big Data analytics is far from a done deal. It is partly dependent upon data sharing and commercial relationships between a wide range of economic actors that seeks to align themselves with the timespace of subjects.

The mesh of organizations which comprise big data ecosystems in various commercial settings was discussed both by Vian Bakir and Penny Andrews. In any big data setting is a range of organizations seeking to sell services to intermediaries and client facing organizations. Vian discussed the complexity of the fake news disinformation ecosystem and its link to news consumption. Penny outlined the interconnected world of learning analytics and its role in driving metricisation in higher education. A new and crucial site for the penetration of big data infrastructures is that of the family and the home. Jannis Kallinkos' keynote, as well as research papers by Ana Canhoto, Val Steeves and Jason Pridmore & Anouk Mols. Ana's paper gave an overview of the data trails left by children and young people. Val's paper addressed the attempts made by Mattel to market Barbie accessories to children via the 'Hello Barbie' doll. Jason and Anouk's paper analysed reactions to AI home assistants such as Alexa, Siri and Google Now. Another is that of the emotions: Andy McStay's paper set out the emotional AI industry and its development. Mark Andrejevic added crucial theoretical content in this area by setting out how the logic of environmentalism was governing how infrastructures developed. He pointed to the cascading logics of automation which attempted to capture and govern sociality itself, steering and manipulating behaviours at new levels of granularity.

5. Anxiety, hype and persuasion about big data capture the attention of marketing professionals

The quality of the connection made with the consumer through the deployment of insight, however generated, is marketers' raison d'être. Insight gleaned from Big Data analytics is purported to give greater all round knowledge into the 'truths' about consumers purchasing behaviours. Big data practices also have the potential to revolutionise and disrupt the marketing profession in equal measure as marketing practitioners are faced with a baffling array of choices emerging from the Big Data ecosystem each of which is seemingly critical for success. This theme captures how the uptake of Big Data has prompted debate in the marketing profession about the place of analytics in comparison to more traditional, qualitative ways of generating marketing insight. It also has provoked anxiety about whether and how big data analytics should be implemented, and how the organization can make sure that it has the skills and competencies to make the most of it. The use of big data analytics in marketing settings may render traditional marketing skillsets, particularly those which rely on creativity, obsolete.

Detlev Zwick and Aron Darmody examined the hype around Big Data by observing a marketing event Online Marketing Rockstars, aimed at promoting the latest analytical techniques to new marketing hires. Whilst depicting an idealised, desirable data driven future for marketing, these events also gave the illusion that analytics was easy to implement. However papers by Sally Dibb and Jeff Hughes & Kirstie Ball documented the challenges of using analytics in day to day marketing. Sally spoke of the professional anxieties provoked by the prospect of analytics in large commercial organizations. Jeff and Kirstie identified how analytics was often an innovation which had its origins in IT departments, who then had a job persuading marketing professionals to come on board. Theoretical contributions were made by Roger von Laufenberg who argued that in analytical settings consumers are more likely postulated in data than imagined creatively.

Concluding Comments

The New Lines of (In)Sight: Big Data Surveillance and the Analytically Driven Organization workshop explored a range of business and management research areas and their relevance to big data surveillance. Of particular significance was the diversity of approaches being taken within this academic discipline and their importance in comprehending modern organisations and the way they shape modern society. These are often absent in the standard surveillance analysis.

Following on from the workshop the organisers have submitted a proposal to the journal Big Data and Society to publish a special issue of the journal on the theme of the workshop, with a view to publication in 2019. This proposal is currently under consideration.

New Lines of Insight: Big Data and the Analytically Driven Organization

Monday June 4th, Stirling Highland Hotel

- 08.45 – 08.55 Welcome, Professor Steve Burt, Associate Dean for Research, University of Stirling
- 08.55 – 09.10 Introduction, David Lyon, Kirstie Ball and William Webster, CRISP
- 09.10 – 10.30 **Keynote: On the eloquence of things: A brief history of computing**, Jannis Kallikos, School of Management, London School of Economics and Political Science
- 10.30 – 11.00 Break
- 11.00 – 12.30 Strategic and Marketing Perspectives, chaired by David Murakami Wood
- Big data tensions and the strategic consequences for the firm**, Sally Dibb, Centre for Business in Society, Coventry University
- Lost in translation? Persuasive practices and big data analytics**, Jeff Hughes and Kirstie Ball, School of Management, University of St Andrews
- Biopolitical marketing utopias: From surveillance to post-marketing**, Detlev Zwick, Schulich School of Business, York University
- 12.30 – 13.30 Lunch
- 13.30 – 15.00 Democratic Intersections chaired by William Webster
- Data Justice: Understanding datafication in relation to social justice**, Lena Dencik, School of Journalism, Media and Culture, Cardiff University
- On the state of algorithmic accountability**, Sara Degli Esposti, Centre for Business in Society, Coventry University
- Facebook's data analytics and problems for democracy: Fake news, dark ads and a disinformation media ecosystem**, Vian Bakir, School of Creative Studies and Media, University of Bangor
- 15.00 – 15.30 Break
- 15.30 – 17.00 Logics and Lock-Ins chaired by Scott Thompson
- From data flow to data foam**, Penny Andrews, Information School, University of Sheffield
- Postulated consumers – Big data surveillance between dataism and reality**, Roger von Laufenberg, School of Management, University of St Andrews
- Data now, pay later: Consumer credit surveillance and the history of compulsory sharing**, Josh Lauer, Department of Communication, University of New Hampshire
- 17.30 – 18.00 Big Data Surveillance Project Team Meeting
- 20.00 Dinner at Brae, 5 Baker Street, Stirling, FK8 1BJ

- 09.00 – 10.30 Work and Workplaces chaired by Michael Vonn
- Nobody’s problem: Automated discrimination and human rights advocacy**, Jedrek Niklas, Department of Media and Communications, London School of Economics and Political Science
- Affective labour in the surveillance economy**, Yuwei Lin, Division of Communications, Media and Culture, University of Stirling
- Big data, control and dominance: Towards a Marcusean approach to surveillance**, Paško Bilić, Institute for Development and International Relations, University of Zagreb
- 10.30 – 11.00 Break
- 11.00 - 12.30 Home and Family chaired by David Lyon
- The role of parents in the formation of digital identities for Generation Tagged**, Ana Canhoto, Brunel Business School, Brunel University London
- Personal choices and the production of situated data: Privacy negotiations and concerns with mobile and home communicative devices**, Jason Pridmore, Department of Media and Communication, Erasmus University
- Hello Barbie, goodbye me: A discourse analysis of Mattel’s conversations with children**, Val Steeves, School of Law, University of Ottawa
- 12.30 – 13.30 Lunch
- 13.30 – 15.00 Algorithms, Automation, Accomplishments chaired by Pete Fussey
- Become environmental: Automation and the extension of surveillance ‘throughout life without limit’**, Mark Andrejevic, Pomona College
- Consumer databases as practical accomplishments: The making of digital objects, in three movements**, Tomas Aritzia, Universidad Diego Portales
- Understanding the significance of Emotional AI**, Andrew McStay, School of Creative Studies and Media, University of Bangor
- 15.00- 15.30 Break
- 15.30 – 17.00 Individual Perspectives chaired by Jeff Hughes
- Addressing the privacy paradox - Why are individuals worried about the value of their privacy but keep donating data?** Jorge Pereira Campos, School of Management, University of St Andrews
- Do citizens/consumers really care about their privacy?** Caroline Lancelot Miltgen, Audencia Business School
- Digital Citizenship in a scoring society**, Arne Hintz, School of Journalism, Media and Culture, Cardiff University
- 17.00 – 17.30 Reflections and feedback
- 17.30 Close

New Lines of Insight: Big Data and the Analytically Driven Organization

Delegates

Name	Institution
Andrejevic, Mark	Pomona College
Andrews, Penny	University of Sheffield
Aritzia, Tomas	Universidad Diego Portales
Bakir, Vian	Bangor University
Ball, Kirstie	St Andrews University
Bennett, Colin	University of Victoria
Bilić, Paško	Institute for Development and International Relations
Borges- Rey , Eddie	University Of Stirling
Burt, Steve	University Of Stirling
Campos, Jorge Pereiro	University of St. Andrews
Canhoto, Ana	Brunel University London
Chiara Bernardi	University Of Stirling
Cruft, Rowan	University Of Stirling
Degli Esposti, Sara	Coventry University
Dencik, Lina	Cardiff University
Dibb, Sally	Coventry University
Egan, Mo	University of Stirling
Elliot, Nathan	Office of the Information and Privacy Commissioner for British Columbia
Fussey, Pete	University of Essex
Hintz, Arne	University of Cardiff
Hughes, Jeff	University of St. Andrews
Kallinikos, Janis	London School of Economics
Lancelot Miltgen, Caroline	Audencia Business School
Lauer, Josh	University of New Hampshire
Lyon, David	Big Data Surveillance Project
McStay, Andrew	Bangor University

Murakami Wood, David	Queen's University
Niklas, Jedrek	London School of Economics
Pridmore, Jason	Erasmus University
Saheli Singh, Sava	Queens University
Singh, Greg	University of Stirling
Steeves, Val	University of Ottawa
Thompson, Scott	University of Saskatchewan
Von Laufenberg, Roger	University of St Andrews
Vonn, Michael	British Columbia Civil Liberties Association
Webster, William	University Of Stirling
Williamson, Ben	University Of Stirling
Yu-Wei Lin	University of Stirling