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i. Operations Note

The Data and Tech Ethics Inquiry was initially scoped by the All-Party Parliamentary Group on Data Analytics in July 2018 and then a formal scoping session by the Inquiry Steering Group took place in November 2018.

The inquiry was co-chaired by Lee Rowley MP (Cons) and Darren Jones MP (Lab).

The steering group consisted of:

- Darren Jones MP: Inquiry Co-Chair
- Lee Rowley MP: Inquiry Co-Chair
- Jonathan Shaw: Chief Executive, Policy Connect
- Phil Richards: Chief Innovation Officer, Jisc
- Marina Jirotka: Professor of Human Centred Computing, University of Oxford
- Luciano Floridi: Professor of Philosophy and Ethics of Information, University of Oxford
- Paul Garel-Jones: Partner, Risk Advisory, Deloitte
- Narayanan Vaidyanathan: Head of Business Insights, ACCA

The inquiry gathered evidence from four roundtables focusing on four sectors, as well as from 30 submissions in response to a call for evidence. Following the scoping session in November 2018 to determine the key themes for examination. The four roundtables and evidence collection was held over a period of five months from Dec 2018 (six months total).

Each roundtable focussed on a particular area of interest: autonomous vehicles, healthcare, education, and policing. Relevant industry figures and sector leaders participated in each discussion, held in Parliament and led by the Inquiry Co-Chairs.

These were held in the format of a short introduction to the topic by an attendee followed by a broad discussion from a group of interested stakeholders and concluding with a review by the Steering Group. Each roundtable considered the ethical challenges arising from the increased use of big and open data.

The findings from the roundtables and the evidence submitted were reviewed by the Steering Group in April 2019.

The Call for Evidence is available to download from
https://www.policyconnect.org.uk/appgda/news/technology-and-data-ethics-inquiry

Embargo on the content of the findings of this report will be lifted at 00.01am 21st May.

ii. Participants details

Evidence Session One

Technology and Data Ethics Inquiry: Education

Attendees	Position	Organisation
Mara Richard	Senior Director of International	Civitas Learning
Rose Luckin	Professor of Learner Centred Design	UCL Institute for Education
Louis Coiffait	Associate Editor	Wonkhe
Natalie Davis	Head of Government Relations	Centre for Data Ethics and Innovation
Christopher Conselice	Professor of Astrophysics	University of Nottingham
Aaron Bowater	Outreach and Engagement Coordinator	Business and Local Government Data Research Centre
Rebecca Eynon	Senior Research Fellow and Associate Professor	Oxford Internet Institute
Sarah Sherman	Trustee	Association for Learning Technology
Jen Persson	Director	DefendDigitalMe
Neil McIvor	Chief Data Officer and Chief Statistician	Department for Education
Tony King	Director, Data in Government and Public Sector	Deloitte
Ben Williamson	Chancellor's Fellow	Centre for Research in Digital Education, University of Edinburgh
Jo Robotham	Head of Public Affairs and Media	Jisc
Iain Mansfield	Head of Public Sector	Association of Chartered Certified Accountants

Evidence Session Two

Technology and Data Ethics Inquiry: Autonomous Vehicles

Attendees	Position	Organisation
Ivana Bartoletti	Head of Privacy and Data Protection	Gemserv
Jack Stilgoe	Senior Lecturer in Social Studies of Science	University College London
Amrita Ranchhod	Manager, Information Delivery, Analytics Information Management	Deloitte
Alan Winfield	Professor of Robot Ethics	University of the West of England
Mike Beevor	Senior Policy Manager	Transport for London
David Wong	Senior Technology and Innovation Manager	Society of Motor Manufacturers and Traders
Claire Gregory	Team Leader, Special Projects	Centre for Connected and Autonomous Vehicles
Niki Iliadis	Innovation and Policy Manager	Big Innovation Centre
Joseph Baddeley	Senior Policy Advisor	Centre for Data Ethics and Innovation
Alan Tua	Artificial Intelligence Lead	Deloitte

Evidence Session Three

Technology and Data Ethics Inquiry: Healthcare

Attendees	Position	Organisation
Joe Johnson	Manager	Deloitte
Ming Tang	Director of Data, Analysis and Intelligence Services	NHS England
Tony King	Director	Deloitte
Charles Gutteridge	Chief Clinical Information Officer	Bart's Health NHS Trust
Ivana Bartoletti	Head of Privacy and Data Protection	Gemserv
Helen Kennedy	Chair of Digital Society	University of Sheffield
Edward Davis	Consultant Arthroplasty Surgeon	The Royal Orthopaedic Hospital NHS Foundation Trust
Andrew Davies	Digital Health Lead	Association of British HealthTech Industries
Chris Boulton	Associate Director, Research & Governance	Health Quality Improvement Partnership
Sam Smith	Coordinator	Medconfidential
Kerren McKinney	Director of Health Economics & Outcomes Research	Smith & Nephew
Andy Weymann	Chief Medical Officer and SVP for Clinical Research	Smith & Nephew

Evidence Session Four

Technology and Data Ethics Inquiry: Policing

Attendees	Position	Organisation
Ivana Bartoletti	Head of Privacy and Data Protection	Gemserv
Alistair Brown	Senior Manager, Risk Analytics	Deloitte
Hannah Couchman	Policy and Campaigns Officer	Liberty
Charles Raab	Professorial Fellow	University of Edinburgh
Marion Oswald	Director	The Centre for Information Rights
Alexander Babuta	Research Fellow	Royal United Services Institute for Defence and Security
Boyd Mulvey	CEO	Chorus Intelligence
Edmund Koerber	Parliamentary Officer	Independent Office for Police Complaints
Stephen Canning	Councillor	Essex County Council
Zeynep Engin	Founder	Data for Policy
Katherine Mayes	Programme Manager	TechUK
Theo Knott	Policy Programmes Manager	BCA, The Chartered Institute for IT
Nicholas Dodd	Policy Manager	Centre for Data Ethics and Innovation

2.

i. Press Release & Stats

All-Party Parliamentary Group calls for strong deal on public 'right to know' for artificial intelligence

Cross-party think tank Policy Connect and the All-Party Parliamentary Group on Data Analytics calls for national 'settlement' on public data collection and analysis with a 'public good' test

Strict Embargo until 00.01hrs GMT, 21 May 2019, Westminster, LONDON:

The research tells a powerful story of how members of the public need confidence in how public service providers such as the NHS and police, and their private sector partners paid for by the tax-payer, take decisions using personal data collected from and about them.

Cross-party think tank Policy Connect and the All-Party Parliamentary Group on Data Analytics call for **a new settlement** between the citizen and all those who provide public services, both public and private bodies.

This means there needs to be **a public services 'licence to operate':** transparent, standardised ethics rules for public service providers (universities, police, health service, transport) to build for public confidence.

The report also says that MPs should have **a tough Parliamentary scrutiny committee set up** like the accounts committee or environmental audit committee – to make sure the public is protected. This could be part of the Science & Technology or Digital, Culture, Media & Sport committee remits, or a new committee.

Lee Rowley, Inquiry co-chair and Conservative Member of Parliament for North East Derbyshire, said: "*The pace of technological change and innovation is something to be hugely welcomed but also one that should be carefully considered by society and communities. It's clear that there isn't enough debate on these huge questions about how we interact with, develop and harness technology either in Parliament or in society as a whole. Government may have a role to play here but, before we start jumping in, we need to work through these difficult questions. The first place to start is to ensure the widest debate and we hope this report can contribute to supporting that."*

The public right to know

The public has a right to know that decisions affecting their lives are not influenced by algorithmic bias, and the right to have explained to them the workings affecting decisions about them.

The new report - *Trust, Transparency & Tech: building ethical data policies for the public good* – envisages measures for a consistent user experience and strengthened accountability; including aircraft-style black boxes in self-driving cars and a user-friendly means such as a kitemark of knowing when an individual is interacting with a machine rather than a person. It proposes using the power of parliamentary oversight and public procurement to create a new settlement for data governance based on public consent, cooperation and openness. The new deal between public services and the public should cover machine learning and artificial intelligence in all organisations providing public services, not just the public sector itself

Jonathan Shaw, chief executive of Policy Connect, said: *"Our Inquiry addresses the concern that data capture and use is out of control. We need to put ethics into black-box algorithms – which can feel like black magic to us – so that it's the norm for decisions based on algorithms to pass the 'common good' test. Our findings are clear that government can lead the way on empowering citizens to know where their data is used, what is collected, and how algorithms arrive at decisions. With such governmental clarity and backing, the booming British tech industry can grow in a way that is safe for users and gives tech engineers a clear path to AI innovation."*

Darren Jones, Inquiry co-chair and Member of Parliament for Bristol West, said: *"This is about more than just having the tools in place to react to big data breaches and technology failures – this is about the government having the leadership to proactively implement data and tech that has safety and privacy built in. That is why we are recommending the CDEI implements a single ethical framework for all public bodies, and those in the private sector providing services paid for by the taxpayer."*

There would be a single framework of ethics principles for all those interacting with the citizen. This should include the requirement for ethical assessments to be built in right at the design stages of AI-based technology and services, with the public's views on data exploitation sought and built in at that initial stage.

Phil Richards, Chief Innovation Officer at Jisc said: *"We welcome the opportunity to participate in this inquiry and the publication of the final report, which contains some eye-catching recommendations designed to increase people's confidence in artificial intelligence products and systems.*

"As an organisation exploring the possibilities for artificial intelligence and data analysis in education, Jisc particularly welcomes the recommendations designed to improve the transparency around the use of data in organisations providing services to the public. We have our own code of practice for data analytics at Jisc and agree that high standards of transparency and information sharing should be a requirement for any organisation providing such services.

"We support the proposal for Independent Data Ethics Advisory Boards for all key policy areas and offer our expertise to help develop a consistent ethics framework for the education sector."

Safeguard Britain's world-leading data and technology advancements - an economic boom

Public service providers are making huge strides in the digital arena – NHSX was established with the Rt. Hon Matt Hancock MP; the Police Crime Commissioner and MI6 announced increased data sharing schemes to fight knife crime, terrorism and serious violence; and the Centre for Connected and Autonomous Vehicles (CCAV) set out a vision for the UK to become a world leader in autonomous vehicles – it expects to see fully self-driving cars on UK roads by 2021.

The UK technology sector's growth is one of the British economy's strengths. Tech Nation and Ernst & Young report that the digital sector is now worth £184bn, growing twice as fast as the economy as a whole. London is second only to Silicon Valley for inbound global connections.

But the All-Party Parliamentary Group and the think tank warn that with such advances comes increased responsibility by data processors and regulators to protect fundamental human rights *now* through designing-in ethical data use. This means that trust and consent are prioritised at the design stage so technology and algorithms meet minimum ethical standards.

The need for Parliamentary oversight

Professor Floridi of the Oxford Internet Institute at the University of Oxford and newly appointed Board member for the CDEI, explained that the Centre for Data Ethics and Innovation has a tough role to play as the 'middle man' between at least 23 government data/tech institutes, private sector and public sector.

Professor Floridi said *"Additionally, around half of NHS Trusts have invested in AI and Machine Learning in some form, whilst we found that at least 14 UK Police Forces are using predictive analytics in some way, with the Home Office funding the National Data Analytics Solution to co-ordinate the use of such software. The support of a dedicated Select Committee would be vital in managing these competing demands and in representing the citizen's interests."*

The inquiry report recommendas that parliamentary scrutiny is enhanced. Legislation to establish the Centre as an independent statutory body should include the requirement for the Centre to submit its proposed annual report to parliament for scrutiny through the current Select Committee process.

Parliament should take a greater leadership role in assessing privacy issues and consider the need for an overarching Select Committee given the ever-growing importance for public trust and confidence of the data-driven and technology influenced world.

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ii. Statistics

Departments Using Data – the need for a clear settlement:

- A recent study by the civil liberties group Liberty reported that at least 14 UK Police Forces currently use predictive analytics in some way, with the Home Office funding the National Data Analytics Solution to co-ordinate the use of such software.
- At least 23 government bodies work directly with the development of data and technology, not including Data Ethics committees.
    - Whilst most government departments have a data ethics committee of some kind, it is presently on an ad hoc basis, with limited coordination and central strategy
    - If each governmental department established a specialist data ethics committee, the Centre for Data Ethics and Innovation would have scope to act as a coordinating body across government and industry

Economic Strengths in the Digital/Tech Sector:

- Between 2014 and 2017 employment in the digital tech sector increased by 13.2%. Workers are more productive by an average of £10,000 per person per annum.
- Government set aside £75m for the development of Artificial Intelligence in 2018, and a further £76m to be spent on skills in digital (and construction).
- Tech Nation reported that the digital sector is now worth £184bn, growing twice as fast as the economy as a whole, and notes that technology is critical to the UK's ongoing growth today and in the future.
- London is second only to Silicon Valley for inbound global connections – tech is a massive export opportunity for us to exploit.
- 2011 study by McKinsey found that the Internet had destroyed 500,000 jobs in France in the previous 15 years - but at the same time had created 1.2 million others, a net addition of 700,000, or 2.4 jobs created for every job destroyed.

Public Awareness of AI and data collection:

- Doteveryone surveyed 1000 workers in the tech sector and results published May 2019 showed that more than a quarter (28%) of tech workers in the UK have seen decisions made about a technology that they felt could have negative consequences for people or society. Nearly one in five (18%) of those went on to leave their companies as a result.
- They also found that tech workers want more time and resources to think about the impacts of their products. Nearly two-thirds (63%) would like more opportunity to do so and three-quarters (78%) would like practical resources to help them. Currently they rely most on their personal moral compass, conversations with colleagues and internet searches to assess the potential consequences of their work.
- A 2018 study by the Open Data Institute into British consumer attitudes showed that if the high level of public support for the NHS and confidence in the existing 'implied consent' model is to be retained,

more proactive and overt discussions are needed with the public on how and why the NHS uses data, and in the robustness of the NHS's data infrastructure.

- The RSA's 2018 YouGov survey[1] showed public awareness of machine learning and artificial intelligence (AI) is low. 'Only 32 percent of people are aware that AI is being used for decision-making in general, and this drops to 14 percent and 9 percent respectively when it comes to awareness of the use of automated decision systems in the workplace and in the criminal justice system.'
- The Academy of Medical Sciences reported that the general public felt optimistic about possibility of AI and machine learning for benefit of society. But the APPG's research found that users needed clarity over knowing up front when they are engaging with AI and sharing their data.

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iii. Recommendations

The policy report makes 9 simple recommendations in three key areas which can be easily changed to better protect the data rights and tech safety of ordinary citizens and boost the tech industry by providing clear guidance on ethics:

Public Services 'Licence to Operate'

1. To build public confidence and acceptability, providers of public services should address ethics as part of their 'licence to operate'. A core principle should be that the public's views on data exploitation are proactively built into an ethical assessment at the service design stage.
2. The citizen should be given access to simple and meaningful information, via the transparency principles underpinning Freedom of Information applying to all those using data exploitation to deliver public services, as part of their 'licence to provide public services'.
3. The citizen should have a 'right to explanation', via a duty on all those delivering public services to provide easy to understand information on the factors taken into account in algorithm-based 'black-box' decisions as they affect the individual.
4. There should be clear lines of accountability on data and algorithm use to the top of every organisation providing public services, including accessible complaints and redress processes. This could be achieved by extending the Data Protection Officer role and updating company director responsibilities.
5. To ensure a consistent experience for the citizen, all Departments' existing governance arrangements should be assessed to ensure they are providing a coherent ethics framework for devolved public service delivery such as NHS trusts and police forces, enforceable through respective regulators. Where necessary Independent Data Ethics Advisory Boards should be established, which could link to the UK Artificial Intelligence Council established in the Artificial Intellgence (AI) sector deal and to the Centre for Data Ethics and Innovation.

Centre for Data Ethics and Innovation Workplan

6. The Centre, working with departmental data ethics centres such as the Centre for Connected and Autonomous Vehicles, should address the trust risks that could inhibit innovation:
    a. Develop a user-friendly means - such as a kitemark - to show when a decision is taken by machine intelligence, and when you are interacting with a machine not a human, and mandate their use across government and public service delivery in higher risk areas.
    b. Provide central guidance on 'responsible trials' of Artificial Intelligence technology such as biometrics and facial recognition as well as autonomous vehicles.

[1] https://medium.com/rsa-reports/artificial-intelligence-real-public-engagement-6b0fd073e2c2

c. Develop a way for pedestrians and other road users to identify an autonomous vehicle along the lines of a 'P' plate.

7. The Government should prioritise work on 'consent' as this is an aspect particularly challenged by data-driven technology, and invite the Centre to carry out a full thematic review into a model for assumed public consent for common good, taking account of lessons learnt. This should consider issues around informed versus implied consent, and how to ensure the consent process is fit for purpose and not a simple tick-box exercise.

Role of Parliament

8. To enhance parliamentary scrutiny, the legislation to establish the Centre as an independent statutory body should include the requirement for the Centre to submit their proposed annual report to parliament for scrutiny through the current Select Committee process.
9. Parliament should take a greater leadership role in assessing privacy issues and consider the need for an overarching Select Committee given the ever-growing importance for public trust and confidence of the data-driven and technology influenced world.

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3. Policy Context

The new Centre for Data Ethics and Innovation (CDEI, referred to as "the Centre") was announced in the 2017 Budget to develop the measures needed to strengthen and improve the way data and AI are used. In launching a consultation on the Centre on 20th November 2018, the Secretary of State for Digital, Culture, Media and Sport said[2]:

> *"The Centre will make sure our society can [ ] maximise the benefits [these dramatic changes] bring. From helping us deal with the novel ethical issues raised by rapidly-developing technologies such as artificial intelligence (AI), agreeing best practice around data use to identifying potential new regulations, the Centre will set out the measures needed to build trust and enable innovation in data-driven technologies."*

The government did not envisage that the Centre should itself regulate the use of data and AI, but that as an advisory body it would set out best practice and advice on the effectiveness of and potential gaps in regulation.

The Centre will play a pioneering role in shaping how data and AI are used, now and in the future, and ensure that data and AI-driven innovations deliver maximum benefits for society.

In its first 2-year strategy, published 20th March 2019, the Centre sets out the role it will play in supporting the aim of the UK becoming a global leader in responsible innovation in data-driven technology that benefits society as a whole:

- Seek to build a policy and governance environment that enables data-driven technology to improve people's lives
- Ensure the public's views inform the governance of data-driven technology
- Work to ensure governance of data-driven technology that can safely support rapid developments in the technologies and their applications
- Foster effective partnerships between civil society, government, academia and industry.

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[2] HM Government, **Code of Practice: Automated Vehicle Trialling**, February 2019, pg. 6

4. Notes to editors

Policy Connect and the All-Party Parliamentary Data Analytics Group

The All-Party Parliamentary Group on Data Analytics is part of Policy Connect. This project was undertaken by Policy Connect's Industry, Technology & Innovation policy team.

- Robert McLaren, Head of Industry, Technology & Innovation
- Jack Tindale, Policy Manager, Industry, Technology & Innovation (Report Author)
- Ben Carpenter Merritt, Policy Manager, Industry, Technology & Innovation
- Geena Vabulas, Policy Manager, Industry, Technology & Innovation
- Clive Gilbert, Policy Manager, Industry, Technology & Innovation
- Oona Muirhead CBE (Report Author)

Supporters

Jisc

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