Index

abuse of dominant position see competition law and data, abuse of dominant position
accountability
accountability principle of the GDPR 241–2
see also data processing under GDPR; GDPR (General Data Protection Regulation (Regulation 2016/679/EU))
algorithmic accountability see algorithms, algorithmic accountability
evidence-based lawmakers 255–7, 267–8, 371
for judicial applications of AI 439
see also judicial applications of AI
public administration, data-driven 255–6, 261–2, 267–70, 272–3
see also automated decision-making, for public administration; smart cities
tortious liabilities see tort law
see also fundamental rights and data; transparency
administrative law
accountability see accountability
data-driven see automated decision-making, for public administration; smart cities
red tape theory, data science insights see red tape theory, data science insights
tax administration see tax administration, data-driven transparency see transparency advertising, targeted see targeted advertising
Airbnb 9, 27, 192
see also internet service providers; sharing economy

algorithms
algorithmic accountability
see also accountability
(semi)autonomous systems see
(semi)autonomous systems, civil liability for
discrimination 269–70, 271, 390, 391, 405, 441, 443
see also fundamental rights and data, discrimination
product liability rules, non-application 73, 75
search engines 77–8
see also Google; search engines
transparency concerns see transparency
algorithmic decision-making see automated decision-making
algorithmic journalism 77
see also news reporting
algorithmic securities trading 59, 60, 77
see also securities
competition law implications 194–5, 208–9
see also competition law and data definition 59
for law enforcement see big data, law enforcement use
medical algorithms 76, 79
see also medicine and data
neural networks 8, 59
patentability of 145–6
see also intellectual property and data
public administration use of 256, 269
see also automated decision-making, for public administration; smart cities
reverse engineering of 137
search algorithms 356
software as  58
see also software
see also artificial intelligence (AI)
Amazon  11, 35, 88, 195, 417
Amazon poster case (United States v Topkins (N.D. Cal))  208
see also competition law and data
see also e-commerce; internet service providers
Angwin, Julia  388
anonymized data  218, 219, 232, 444
see also data protection; personal data
Ansip, Andrus  347
anti-competitive practices see
competition law and data, restrictive business practices
see also big data, law enforcement
use; big data, predictive analytics
antitrust enforcement see competition law and data
Apple  335, 339
see also software
artificial intelligence (AI)
automated decision-making see automated decision-making;
(semi)autonomous systems, civil liability for
competition law implications  194–5, 208–9
see also competition law and data
for data crime detection  238–40, 243
see also big data, law enforcement
use; cybercrime and data
judicial applications see judicial applications of AI
machine learning  2, 217, 221, 356
deep learning (training)  7–8, 59
risk management  61–2
unpredictability of  60, 73–4
natural language systems  365, 425–6, 427–8
personalization of law, facilitated by see personalized law
robots see robots
smart cities, use in see smart cities
smart devices see Internet of Things
see also algorithms
Australia
data retention law  384
health data, data localization measures  328, 352
see also data localization
immigration policies, data secrecy  405
privacy law  383
see also privacy
automated decision-making
autonomy as relative term  60–61
civil liability for see
(semi)autonomous systems, civil liability for
competition concerns  194–5, 208–9
see also competition law and data
data subjects’ rights under GDPR  405–6, 422–3
see also GDPR (General Data Protection Regulation
(Regulation 2016/679/EU)), data subjects’ rights
for dispute resolution  372, 428
see also judicial applications of AI
for public administration
hybrid (public–private) regulation, public interest concerns  246–7, 264–5, 272, 455–6
justice concerns  9–10
see also accountability; fundamental rights and data; transparency
predictive analytics see big data, predictive analytics
in smart cities see smart cities
transparency and accountability concerns  255–6, 261–2, 267–70, 272–3
sentencing decisions  371–2
see also big data, law enforcement
use; judicial applications of AI
see also algorithms; artificial intelligence (AI)
autonomous vehicles see robots, autonomous vehicles
behavioural economics
consumers’ cognitive biases 94–7, 98
CART (Comprehensive Assessment of Rational Thinking) test 98–9
‘nudging’
as market manipulation see market manipulation
as public administration tool 252, 256, 267, 370
see also smart cities, data-driven regulation
see also personalized law

Belgium
data ownership, current law and de lege ferenda 108–11, 122–7, 131–2
database right, sui generis see
data sets

big data
competition law implications see competition law and data
computer forensics using 367
concept 251–2, 378–9
data science distinguished from 1–2, 8, 217, 251–2
see also data science
open data distinguished from 252–3
three Vs characterizing (volume, diversity, variety) 1, 217, 252
Council of Europe guidelines on 221
cybercrime facilitated by see cybercrime and data
data sets see data, data sets
data types encompassed 218–19, 220
e-commerce use see e-commerce
fundamental rights implications see fundamental rights and data
law enforcement use 10, 216
see also cybercrime and data
data crime detection 238–40, 243
geographical mapping 236
justice concerns 10, 237–8, 239, 456–7
see also accountability; fundamental rights and data; transparency
personal data analysis 234–6
private enforcement 239–40
proposals for improvement 240–42
recidivism risk assessment 363–4
sentencing decisions 371–2
for legal research see legal research, data science for
personalization of law, facilitated by see personalized law
predictive analytics
for crowd control and public safety 259–60
outcomes of court cases 360–62, 364, 426–7
recidivism risk assessment 363–4
for tax administration 318–19, 321
see also tax administration, data-driven
terrorist attacks 363
for urban planning 249–50, 254–5, 258
see also smart cities
systems vendors, accountability 240–41
see also (semi)autonomous systems, civil liability for
see also personal data
Birks, Dan 236, 239
Bitton, Miriam 144
blockchain and smart contracting 157–9
for AGMs (annual general meetings) 153–4, 170–71, 179, 182
discussion platforms 174–5
shareholder proxy voting, proposed system 171–4
shareholder voting initiatives 175–9, 180–81
decentralized autonomous organizations (DAOs) see decentralized autonomous organizations (DAOs)
see also company law and corporate governance

Bommarito, Michael J., II 295–6, 297
Bone, Robert G. 137
Bozeman, Barry 276, 277–80
Brown, Ian 389
Budapest Convention on Cybercrime 2001 (Council of Europe) 223–4, 231
see also cybercrime and data

Burns, Ryan 404

Calo, Ryan 97
Cambridge Analytica 351, 390
cars, self-driving see robots, autonomous vehicles
cartels see competition law and data, restrictive business practices
Casey, Anthony J. 415, 419
censorship
China’s internet censorship rules 326, 328, 330, 338, 352
see also data localization
data secrecy methods 404–6
by Facebook 388
self-censorship 385, 390, 394–5
see also fundamental rights and data; news reporting
Chan, Janet 234, 238
Chander, Anupam 334, 349
China, data localization measures 350
economic protectionism driver 339
internet censorship 326, 328, 330, 338, 352
World Trade Organization ruling on 338
see also data localization
cities, smart see smart cities
classifications, copyright protection of 142–3
see also copyright
cloud computing 25, 42, 111, 115, 221
CRITiCaL project (Combatting eRiminals In The Cloud) 238–9, 243–4
see also artificial intelligence (AI); big data, law enforcement use
cybercrime facilitated by 226–7, 231, 335
see also cybercrime and data
see also Internet of Things
company law and corporate governance
agency problem 154–7
AGMs (annual general meetings) blockchain and smart contracting
for see blockchain and smart contracting, for AGMs (annual general meetings)
functional flaws of 163–8
procedural flaws of 168–70
shareholder monitoring role 162–3
decentralized autonomous organizations (DAOs) see decentralized autonomous organizations (DAOs)
Directive 2017/828/EU 168–9
competition law and data 183–4, 454
abuse of dominant position 187–8, 205, 207–8
Facebook, German antitrust investigation of 183, 188, 206–7
Google Shopping case (European Commission Decision AT.39740) 189, 205–6, 401
Microsoft case (Microsoft Corp. v Commission of the European Communities (T-201/04)) 184–6, 188
algorithms, competition law implications 194–5, 208–9
Amazon poster case (United States v Topkins (N.D. Cal)) 208
competition law theory applied to data 186–8
Index 467

data portability and interoperability 203
GDPR provisions on data portability 193, 203
see also GDPR (General Data Protection Regulation (Regulation 2016/679/EU))
Microsoft case (Microsoft Corp. v Commission of the European Communities (T-201/04)) 184–6, 188
as source of competition in the data economy 193, 202
data protection, relationship with 200, 206–7, 401–2
see also data protection
Facebook see Facebook, competition law applied to
Google see Google, competition law applied to
intellectual property law, relationship with 185
see also intellectual property and data
merger control 188, 190–91, 196–7, 204, 212
Facebook/WhatsApp (European Commission Decision M.7217) 197, 198–200, 206, 212
HERE mapping service acquisition, German Bundeskartellamt (competition authority) decision 203–4, 211
Microsoft/LinkedIn (European Commission Decision M.8124) 197, 200–202
Microsoft/Skype (European Commission Decision M.6281) 197–8
Sanofi/Google/DMI JV (European Commission Decision M.7813) 202–3
‘more economic’ enforcement approach, role of data 188–9
paradigm shifts associated with the data economy automated decision-making by market actors 194–5, 208–9
loss of customer interface 193–4
market dynamism and disruptive innovations 195
multi-sided markets and tipping 191–3
see also sharing economy
quantification issues 190–91
see also ‘payments’ with personal data
regulatory responses 212–13
restrictive business practices 187, 211
Amazon poster case (United States v Topkins (N.D. Cal)) 208
data pooling 210–11
‘Eturys’ UAB v Lietuvos Respublikos konkurencijos taryba (C-74/14) (ECJ) 208–9
compilations of data, copyright protection of 141–3, 145
see also copyright
constitutional rights see fundamental rights and data
constitutionalism, digital 400–401, 407
see also fundamental rights and data
consumer law consumer concept in digital era 11–12, 17–18, 36–7, 48
‘average consumer’ 36, 93–4, 410
citizen-consumers 265–7, 273
see also smart cities, legal challenges
rational consumer notion, insights of behavioural economics on 94–7
see also behavioural economics vulnerable consumers 36, 94, 106, 414
customer contracts see contract law, consumer contracts
digital content see digital content
e-commerce see e-commerce
EU law framework see also EU law
Consumer Sales Directive (Directive 1999/44/EC) 90
Digital Content Directive see Digital Content Directive
(Proposal for a Directive on contracts for the supply of digital content COM(2015) 634 final)

Online and Distance Sales Directive (Proposal for a Directive on contracts for the online and other distance sales of goods COM(2015) 635 final) 25, 92, 105


Unfair Contract Terms Directive (Directive 93/13/EEC) 29, 30, 38, 47

ISPs’ terms of service 44–7, 399–400
see also data ownership, liability for data loss; internet service providers

market manipulation see market manipulation

personal data exchanged for ‘free’ services see ‘payments’ with personal data

personalized transactions 35–7, 38
see also personalized law

personalized disclosures 415–17
see also personalized law

remedies for data loss 43–9
see also data ownership, liability for data loss

contractual remedies for data loss business-to-business contracts 42–3
see also data ownership, liability for data loss

consumer contracts 43–9

personal data, application to 20–22, 27–30
data exchanged for ‘free’ services see ‘payments’ with personal data, contract law

smart contracting see blockchain and smart contracting

see also consumer law

Convention on Cybercrime 2001 (Council of Europe) 223–4, 231 see also cybercrime and data
copyright 11, 109
applied to data 133–4, 144–5, 451–2
data compilations 141–3, 145 see also database right, sui generis

‘hot-news’ doctrine 139–40
numbers 143–4
news reporting 139–40 see also news reporting

US case law 139–44
corporate governance see company law and corporate governance

corporate taxation see tax administration, data-driven

Council of Europe
big data guidelines 221
see also big data

Convention on Cybercrime 2001
223–4, 231
see also cybercrime and data

counter-performance, personal data as see ‘payments’ with personal data

Coy, Peter 160
criminal justice and data see big data, law enforcement use; cybercrime and data

CRITiCaL project (Combating cRiminals In The Cloud) 238–9, 243–4
see also artificial intelligence (AI); big data, law enforcement use
cross-border data transfers see personal data, cross-border data transfers
cybercrime and data 221–2, 242–3

Convention on Cybercrime 2001 (Council of Europe) 223–4, 231
costs of 228, 233
data crime detection, big data analytics for 238–40, 243
see also big data, law enforcement use
data localization for cybersecurity 334–5
see also data localization
harms of 231–3
risks inherent to technology 226–31
case study 229–30
cloud computing 226–7, 231, 335
see also cloud computing
Internet of Things 227
see also Internet of Things
typology 215–16, 222–5, 227
distributed denial of service attacks (DDoS) 222, 223, 225, 228–9, 231
hacking 161, 222, 223, 225, 228–30
harassment and hate crimes 391–2, 394–5
spam attacks 229

threats, risks and harms differentiated 225–6
whale phishing 231
victimization, big data analytics facilitating 225, 227–8, 230–31
see also big data, law enforcement use; data ownership, liability for data loss
cybersurveillance see privacy, data retention and cybersurveillance

damages 450
under consumer law 29–30
for data loss 52–4
pure economic loss 66, 68, 75, 80, 81–2
see also tort law
data
big data see big data
data crime see cybercrime and data
data protection see data protection; personal data
data science see data science
data sets
combinations of 7, 201, 217, 220, 234–5, 237–40, 436
see also big data
copyright protection of 145
see also database right, sui generis
data localization measures restricting see data localization
data mining from see data mining for judicial applications of AI 431–2
metadata on 152, 431
as digitized information 3–5
see also digital content
open data 252–3, 258–9, 440–41
as property see data ownership; intellectual property and data as public goods 41
data files, pledge and attachment of see pledge and attachment of data files (Belgian law)
data localization 12, 322–3, 449–50
anti-localization initiatives 330–31
Proposal for a Regulation on a framework for the free flow
of non-personal data in the European Union COM(2017) 495 final 331, 347, 352
Trans-Pacific Partnership Agreement (TPP) 330–31, 345–6, 353
World Trade Organization rulings 338
data science, impact on 349–51, 352, 353
definition 323
drivers of 332–3
   anti-globalization and populist politics 333, 337–8
cybersecurity 334–5
data protection 325, 327–8, 328–9, 331, 336–7, 347–9, 352
see also data protection;
   personal data
economic protectionism 338–9
law enforcement 335–6
economic impact of 331–2
EU law position on 346–7
non-personal data 331, 347, 352
personal data 325, 331, 336–7, 347–9, 352
see also data localization measures
Australia, health data 328, 352
China see China, data localization measures
explicit 327–8
France 339
implicit 328–9
national and supranational 330
Russia 324, 327–8, 340–44, 350, 351, 352
spectrum of 329–30
United States see United States, data localization measures
optimal regulation 351–3, 450
data loss, liability for see data ownership; liability for data loss
data mining 2, 356
computer forensics 367
emails 296–9
legal documents 358–9, 365–7
see also legal research, data science for
social media 300–301, 351, 359
see also social media
for legal research 368, 369, 370
see also legal research, data science for
sentiment analysis, data from Coosto 368, 369
see also data science, as a practice
data ownership 2, 452
Belgian law, current and de lege ferenda 108–11, 122–7, 131–2
see also pledge and attachment of data files (Belgian law)
competition law theory applied to 186–8
see also competition law and data
data ‘ownership’ concept 10–11, 40–41, 44, 49
intellectual property law applied to data see intellectual property and data
liability for data loss 453
see also cybercrime and data
contractual remedies 42–9
‘data loss’ concept 39, 40–41
evidence of loss 52
ISPs’ terms of service on 44–7, 399–400
see also internet service providers (ISPs)
non-contractual remedies 49–50
personal data loss 51
quantum of damages 52–4
personal data see personal data
software, as property 10–11, 109
see also software
sui generis right of data ownership, need for 11, 41, 134
theft of data see cybercrime and data
see also property law
data pooling 210–11
see also competition law and data, restrictive business practices
data processing under GDPR see data processing under GDPR
for judicial applications of AI 443–4
see also judicial applications of AI
local processing restrictions 324
see also data localization
Index 471

pseudonymized and anonymized
data 218, 219, 232, 234, 444
for public administration purposes
250–53
see also smart cities
standards 327
data processing under GDPR
accountability principle 241–2
consent to 28, 126, 128
acceptance of standard terms
and conditions of consumer
contracts 28–9
data processing for new purposes
130–31
'payments' with personal data 28,
31, 33
see also 'payments' with
personal data
definition 128
'legitimate interest' in 28, 128–9
purpose limitation principle 129–31
see also data protection; GDPR
(General Data Protection
Regulation (Regulation
2016/679/EU)); personal data
data protection 10, 21
competition law, relationship with
200, 206–7, 401–2
see also competition law and data
data integrity 2
data loss, liability for see data
ownership, liability for data loss
data ownership see data ownership
data processing see data processing
as driver of data localization 325,
327–8, 328–9, 331, 336–7,
347–9, 352
see also data localization
EU law see data processing under
GDPR; GDPR (General
Data Protection Regulation
(Regulation 2016/679/EU))
offences see cybercrime and data
personal data see personal data
privacy law distinguished from
382–3
see also privacy
see also fundamental rights and data
data retention see privacy, data
retention and cybersurveillance
data science
algorithms see algorithms
big data distinguished from 1–2, 8,
217, 251–2
see also big data
definition 1–2, 8, 306, 349
emergence as a discipline 460–62
legal and ethical concerns
see also legal applications of data
science; smart cities, legal
challenges
accountability see accountability
competition effects see
competition law and data
cybercrime see cybercrime and
data
data protection see data
protection
data quality 454–5, 461
data skills 273, 439, 442, 456–7
data valuation 453–4
exogenous and endogenous
limitations 219, 220–22
justice see justice concerns about
data science
legal classification and
responsiveness 450–53
liabilities see data ownership,
liability for data loss; (semi)
autonomous systems, civil
liability for; tort law
transparency see transparency
legal applications of see legal
applications of data science
as a practice 2, 217, 251
AI see artificial intelligence (AI)
data analysis software 7
data localization measures, impact
of 349–51, 352, 353
see also data localization
data mining see data mining
drivers 5–7
for legal research see legal
research, data science for
methodological demands 8
techniques, trade secrets
protection 138
see also trade secrets protection
for data
public administration red tape
theory, insights on see red tape
data secrecy 404–6
see also censorship; fundamental
rights and data; news reporting
data sets see data, data sets
database right, *sui generis* 11, 41, 109,
117, 452
Belgian law implementation 116,
118
pledge and attachment of data
files via 111, 118–20, 131
see also pledge and attachment
of data files (Belgian law)
under Database Directive (Directive
96/9/EC) 116–17, 147
requirements for the grant of
118–20
US legislative proposals 146–50, 151
see also United States, intellectual
property and data
see also copyright
datasets see data, data sets
de Jong, Gjalt 287
decentralized autonomous
organizations (DAOs) 154,
159–62, 179
blockchain and smart contracting
technology underpinning 157–9
see also blockchain and smart
contracting
see also company law and corporate
governance
decision-making, automated see
automated decision-making
Declaration on the Rights of
Indigenous Peoples 2007 (UN)
395
see also fundamental rights and data
deep learning (training) 7–8, 59
see also artificial intelligence (AI)
defamation via algorithmic outputs
77–8
see also (semi)autonomous systems,
civil liability for
Defend Trade Secrets Act 2016 (US)
135
digital constitutionalism initiatives
400–401, 407
see also fundamental rights and data
digital content
contracts for 24–6
see also contract law, consumer
contracts
data files, pledge and attachment of
see pledge and attachment of
data files (Belgian law)
definition 25, 104
Digital Content Directive see Digital
Content Directive (Proposal
for a Directive on contracts for
the supply of digital content
COM(2015) 634 final)
ownership of see data ownership
personal data exchanged for see
‘payments’ with personal data
physical goods distinguished from
25–6
see also Internet of Things
see also consumer law
Digital Content Directive (Proposal
for a Directive on contracts for
the supply of digital content
COM(2015) 634 final)
‘payments’ with personal data,
contractual regime 32–3, 34–5,
37–8, 43, 48, 92
rules on conformity and remedies for
non-conformity 25, 104
‘smart devices,’ application to
104–5
see also Internet of Things
digital contracts, formation 23–4
see also contract law, consumer
contracts
digital humanitarianism 402–4
see also fundamental rights and data
digital market manipulation see market
manipulation
digital sovereignty see data localization
directories, copyright protection of
141–2
see also copyright
discrimination see fundamental rights
and data, discrimination
dispute resolution
automated decision-making 372,
428
see also automated decision-
making
case outcome predictions 360–62, 364, 426–7
distributed denial of service attacks (DDoS) 222, 223, 225, 228–9, 231
see also cybercrime and data
distributed ledger technology see blockchain and smart contracting
dominant position, abuse of see competition law and data, abuse of dominant position
driverless vehicles see robots, autonomous vehicles
drones 76
see also robots
e-commerce
consumer contracts see contract law, consumer contracts
digital content see digital content
Online and Distance Sales Directive (Proposal for a Directive on contracts for the online and other distance sales of goods COM(2015) 635 final) 25, 92, 105
personal data exchanged for ‘free’ services see ‘payments’ with personal data
personalized transactions 35–7, 38
see also personalized law
targeted advertising see targeted advertising
service providers
Amazon see Amazon
eBay 191, 343
PayPal 330, 343, 350, 450
see also consumer law
eBay 191, 343
see also e-commerce; sharing economy
economics and law
behavioural economics see behavioural economics
data localization, economic impact of 331–2
see also data localization
‘more economic approach’ to competition enforcement, role of data 188–9
see also competition law and data
electronic contracts, formation 23–4
see also contract law, consumer contracts
e-mails, data mining from 296–9
see also data mining
employment rights in the data economy 396–8
see also fundamental rights and data
encryption 385–6
see also privacy
EU law 19
data localization measures see data localization, EU law position on
EU court rulings
Asnef-Equifax, Servicios de Información sobre Solvencia y Crédito, SL v Asociación de Usuarios de Servicios Bancarios (Ausbanc) (C-238/05) 210–11
Digital Rights Ireland Ltd v Minister for Communications, Marine and Natural Resources and Others (C-293/12 and C-594/12) (ECJ) 384, 394
‘Eturas’ UAB v Lietuvos Respublikos konkurencijos taryba (C-74/14) (ECJ) 208–9
Microsoft Corp. v Commission of the European Communities (T-201/04) 184–6, 188
Schrems v Data Protection Commissioner (C-362/14) (ECJ) 336, 348
on the sui generis database right 119, 120
see also database right, sui generis
UsedSoft GmbH v Oracle International Corp (C-128/11) 109
European Commission Decisions
Google Shopping case (European Commission Decision AT.39740) 189, 205–6, 401
merger control see competition law and data, merger control legislation
Charter of Fundamental Rights
of the European Union 50, 378, 380, 382, 401, 422

Consumer Rights Directive
(Directive 2011/83/EU) 26–7, 91, 416

Consumer Sales Directive
(Directive 1999/44/EC) 90

Data Retention Directive
(Directive 2006/24/EC) 384

Database Directive (Directive 96/9/EC) 116–17, 147

GDPR see GDPR (General Data Protection Regulation (Regulation 2016/679/EU))

Merger Regulation (Regulation 139/2004/EC) 188, 190, 199


Product Liability Directive
(Directive 85/374/EEC) 73

Shareholder Rights Directive
(Directive 2007/36/EC) 167–8

Shareholder Rights Directive
(Directive 2017/828/EU) 168–9

Treaty on the Functioning of the European Union (TFEU) 187–8


Unfair Contract Terms Directive
(Directive 93/13/EEC) 29, 30, 38, 47

proposed legislation


Online and Distance Sales Directive (Proposal for a Directive on contracts for the online and other distance sales of goods COM(2015) 635 final) 25, 92, 105

Proposal for a Regulation on a framework for the free flow of non-personal data in the European Union COM(2017) 331, 347, 352

evidence

AI-generated evidence 237–8, 239, 243, 432–3, 457

see also judicial applications of AI of data loss 52, 53

see also data ownership, liability for data loss

evidence-based lawmakers 255–7, 267–8, 371

of malfunction of (semi)autonomous systems 74

see also (semi)autonomous systems, civil liability

strict liability 68–72, 74, 75, 77–8, 80, 81

Facebook 195

censorship by 388

see also fundamental rights and data; news reporting

competition law applied to 191

see also competition law and data

Facebook/WhatsApp merger (European Commission Decision M.7217) 197, 198–200, 206, 212

German antitrust investigation of 183, 188, 206–7

discriminatory practices, alleged 392–3

foreign government control efforts 336, 338

see also data localization

terms of service 44–5

see also social media

fairness see justice concerns about data science

family law, personalized default rules 420–21

see also personalized law

Feeney, Mary K. 288–9

Ferguson, Andrew Guthrie 234, 238

Flickr 47

see also social media

Vanessa Mak, Eric Tjong Tjin Tai and Anna Berlee - 9781788111300
Downloaded from Elgar Online at 06/24/2019 12:48:06PM via free access
Index 475

Floridi, Luciano 219
France
  data localization measures 339  
  see also data localization
  liability for movable objects 69–70
  fundamental rights and data 406–7
  Charter of Fundamental Rights of the European Union 50, 378, 380, 382, 401, 422
  concepts 378–80
  data protection see data protection; personal data
digital humanitarianism 402–4
discrimination 238, 271, 390
  algorithmic 269–70, 271, 390, 391, 405, 441, 443
gender-based 390, 391, 396–7, 420–21
  personalized law, equality and freedom implications 423–4
  see also personalized law
  race and religion-based 269–70, 271, 392–6, 396–7
  sexual orientation-based 392
tax administration 315–16
  see also tax administration, data-driven
as exogenous limitation of data science 220–21
freedom of association 389–90
freedom of expression (right to impart and receive information) 385, 386–7
censorship see censorship
data secrecy 404–6
  online regulation as interference with 387–8, 392, 398
indigenous peoples’ rights 395–6
judicial applications of AI, rights application 442–4
  see also judicial applications of AI
labour rights 396–8
privacy see privacy
private actors, application to 399–400
  see also internet service providers (ISPs)
digital constitutionalism initiatives 400–401, 407
EU competition/data protection law approach 401–2
  see also competition law and data; data protection
right to effective remedy 335
right to liberty and security 394–5
UN instruments on see United Nations
US constitutional rights 378, 381, 386–7, 399, 402
  see also accountability; big data; transparency
Gangadharan, Pena 393
GDPR (General Data Protection Regulation (Regulation 2016/679/EU)) 27–8, 109, 217–18
cross-border data transfers 347–8
  see also personal data, cross-border data transfers
on data portability 193, 203
  see also competition law and data, data portability and interoperability
data processing see data processing under GDPR
data subjects’ rights 150–51
data access 106
right to be forgotten 126–7, 401–2
  vis-à-vis automated decision-making 405–6, 422–3
  see also automated decision-making
personal data see personal data
geographical mapping 236
  see also big data, law enforcement use
geographical restrictions on data flows see data localization
Germany
  competition law
  see also competition law and data
  Act against Restraints of Competition, data economy amendments (2017) 212
Facebook, antitrust investigation of 183, 188, 206–7
HERE mapping service
decision 203–4, 211
(semi)autonomous systems, civil liability for 56, 69, 72, 77–8
see also (semi)autonomous systems, civil liability for goods, digital see digital content goods, sale of see consumer law

Google 20, 195
competition law applied to 191
see also competition law and data

Google Shopping case (European Commission Decision AT.39740) 189, 205–6, 401
Sanofi/Google/DMI JV (European Commission Decision M.7813) 202–3
contractual relationship with users 22
see also contract law as data processor 22, 380
see also data protection liability for algorithmic outputs 77–8
right to be forgotten (EU law) 126–7, 401–2
foreign government control efforts 335–6, 343
see also data localization

Google Books 4, 7
influenza trends research, facilitated by 355
see also medicine and data

labour rights performance 396–7
targeted advertising see targeted advertising
terms of service 45–6
transparency concerns 27
see also internet service providers

granular legal norms see personalized law, granular legal norms
Grassegger, Hannes 388
Groff, Elizabeth 236, 239
Grunes, Allan P. 183

Hacker, Philipp 414, 416
hacking 161, 222, 223, 225, 228–30
see also cybercrime and data

Hanson, Jon 94–7, 99–100
harassment and hate crimes via social media 391–2, 394–5
see also cybercrime and data;

fundamental rights and data, discrimination

Hayek, Friedrich 254
healthcare and data see medicine and data

Helm, Dieter 290
Homes, Oliver Wendell, Jr 364, 411
human rights see fundamental rights and data
humanitarianism, digital 402–4
see also fundamental rights and data

income tax, corporate 310, 312–13
see also tax administration, data-driven

indigenous peoples’ data rights 395–6
see also fundamental rights and data

Information Technology and Innovation Foundation (ITIF) 332, 348
see also data localization

informational privacy see privacy

inheritance law, personalized default rules 420–21
see also personalized law

intellectual property and data 151–2

competition law, relationship with 185
see also competition law and data
copyright see copyright
database right, sui generis see database right, sui generis
IP restrictions on data flows 326
see also data localization

patent law 134, 145–6, 452
sui generis right of data ownership, need for 11, 41, 134
theft of intellectual property 232
see also cybercrime and data

trade secrets protection see trade secrets protection for data

United States see United States, intellectual property and data

see also data ownership

International Covenant on Civil and Political Rights 1966 (UN) 382, 383, 389, 390, 394
see also fundamental rights and data
International Covenant on Economic, Social and Cultural Rights 1966 (UN) 396
see also fundamental rights and data localization
international trade law, on data localization
Trans-Pacific Partnership Agreement (TPP) 330–31, 345–6, 353
World Trade Organization rulings 338
see also data localization
Internet of Things 25–6, 39, 453
consumer law challenges 106–7
‘average consumer’ standard, whether applicable 94
conformity of goods assessments 90, 104–5
devices entering transactions on owner’s behalf 88–9
infrastructure demands 87–8
owner’s restricted control over device’s use 88, 89–90
personal data collection, owner’s informed consent 91–2
personalized nature of goods 86–7, 90
see also personalized law
data crime facilitated by smart devices 227
see also cybercrime and data definition 83–4
Digital Content Directive applied to smart devices 104–5
see also Digital Content Directive (Proposal for a Directive on contracts for the supply of digital content COM(2015) 634 final)
personal data collected by smart devices as counter-performance 90–94, 107
see also ‘payments’ with personal data
market manipulation use 97–100, 107
see also market manipulation
owner’s informed consent 91–2
types 85–6
public administration applications see smart cities, data-driven regulation
smart medical devices 84, 145, 419
see also medicine and data
see also artificial intelligence (AI); cloud computing; robots
internet service providers (ISPs)
Amazon see Amazon
civil liabilities 77–8, 79
see also (semi)autonomous systems, civil liability for competition law applied to see competition law and data as data processors see data processing under GDPR; ‘payments’ with personal data
digital constitutionalism initiatives 400–401, 407
see also fundamental rights and data
civil government control efforts 335–6, 338, 343
see also data localization
foreign government cybersurveillance, facilitated by 334, 383–4
see also privacy
interoperability see competition law and data, data portability and interoperability
intestacy, personalized default rules 420–21
see also personalized law

Jensen, Michael C. 156, 157
Jhering, Rudolph von 411–12, 413–14
journalism see news reporting
judicial applications of AI
AI-assisted legal reasoning 435–8
AI-generated evidence 237–8, 239, 243, 432–3, 457
automated dispute resolution 372, 428
case management 433–4
case outcome predictions 360–62, 364, 426–7
‘compass’ for 442–4
court procedures 428–9
data sets for 431–2
judge profiling 427
judicial data skills, need for 439, 442, 456–7
legal research see legal research, data science for
profession’s slow uptake of technology 429–31
risks and dilemmas 438–42, 445–7, 456
sentencing decisions 371–2
see also artificial intelligence (AI)
justice concerns about data science algorithmic discrimination 269–70, 271, 390, 391, 405, 441, 443
see also algorithms; fundamental rights and data, discrimination
law enforcement 10, 237–8, 239, 456–7
see also big data, law enforcement use; cybercrime and data
public administration 9–10
see also automated decision-making; smart cities
see also accountability; fundamental rights and data; transparency
Kaplow, Louis 412–13
Kaptein, Maurits 98, 102
Katz, Daniel M. 295–6, 297, 361
Kauffmann, Wesley 287–8, 288–9, 290, 302
Kelsen, Hans 410
Khairi, Olga 160
Kira (legal search engine) 426
see also legal research, data science for
Kuner, Christopher 335, 337
Kysar, Douglas 94–7, 99–100

labour rights in the data economy 396–8

see also fundamental rights and data
Lafarre, Anne J.F. 163, 166
law enforcement
big data analytics for see big data, law enforcement use
data localization for 335–6
see also data localization
sentencing, automated decision-making 371–2
see also automated decision-making
Lê, Uyên P. 334, 349
legal applications of data science 2
company law and corporate governance see company law and corporate governance
competition law see competition law and data
consumer law see consumer law
contract law see contract law
criminal justice see big data, law enforcement use; cybercrime and data
data localization issues see data localization
dispute resolution see dispute resolution
judicial applications see judicial applications of AI
law enforcement see judicial applications of AI
law enforcement use
legal research see legal research, data science for
personalized law see personalized law
property law see property law
public administration see automated decision-making, for public administration; red tape theory, data science insights; smart cities
sharing economy see sharing economy
tax administration see tax administration, data-driven
tort law see tort law
legal research, data science for 12–15, 355–7, 376–7
legal big data concept 357–9
Index

legal documents, data mining 358–9, 365–7
see also data mining

legal job market impact 374–7

limits and drawbacks 372–4, 457

profession’s slow uptake of technology 429–31

purposes 359–60

decision-making and empirical research 367–72
see also automated decision-making

predictions see big data, predictive analytics

searching, structuring and selecting 364–7

search engines 425–6
Kira 426
Ravellaw 365–6, 425
Ross 365, 426
see also big data; data science, as a practice; judicial applications of AI

legal technology see blockchain and smart contracting

Lemley, Mark A. 138
liability law see tort law

LinkedIn 300–301, 344

Microsoft/LinkedIn (European Commission Decision M.8124) 197, 200–202
see also social media

local government, data-driven see automated decision-making; smart cities

localization of data see data localization

machine learning see artificial intelligence (AI), machine learning

market manipulation 94–7
contract and tort law remedies 105–6
facilitated by smart devices 97–100, 107
see also Internet of Things

Unfair Commercial Practices Directive applied to 100–101, 107
see also Unfair Commercial


coercion rules 103
harassment rules 101–2
undue influence rules 102–3
see also behavioural economics;
consumer law; targeted advertising

market power, abuse of see competition law and data, abuse of dominant position

Meckling, William H. 156, 157

medicine and data 217–18, 355

medical algorithms 76, 79
medical data protection 327, 328, 352
see also data protection; personal data

Sanofi/Google/DMI JV (European Commission Decision M.7813) 202–3
smart medical devices 84, 145, 419
see also Internet of Things

merger control see competition law and data, merger control

methodology of data science see data science, as a practice

Microsoft

abuse of dominance case (Microsoft Corp. v Commission of the European Communities (T-201/04)) (EU) 184–6, 188

Microsoft/LinkedIn merger (European Commission Decision M.8124) 197, 200–202

Microsoft/Skype merger (European Commission Decision M.6281) 197–8
see also competition law and data; software

Moorhead, Carlos 148, 151

multi-sided markets see sharing economy

negligence see tort law

Netherlands

Amsterdam as a smart city 259, 260
see also smart cities

legal job market 375
public administration
see also red tape theory, data science insights
multidimensional red tape, research on 287–8, 288–9, 290, 302
red tape cutting initiatives 275, 282–3
tax administration
see also tax administration, data-driven
co-operative compliance programme 314
data management approach 317
fair play principle 316
Supreme Court ruling on use of personal data 315, 319
news reporting
algorithmic journalism 77
see also algorithms
censorship see censorship
copyright law applied to (‘hot-news’ doctrine) 139–40
see also copyright
data secrecy methods 404–6
ProPublica (news organization) 392–3
Niblett, Anthony 415, 419
non-discrimination see fundamental rights and data, discrimination
norms in the data economy see personalized law, granular legal norms
‘nudging’ see behavioural economics, ‘nudging’; market manipulation
numbers, copyright protection of 143–4
see also copyright
Online Sales Directive (Proposal for a Directive on contracts for the online and other distance sales of goods COM(2015) 635 final) 92, 105
Osenga, Kristin 137
ownership of data see data ownership
patent law applied to data 134, 145–6, 452
see also intellectual property and data
‘payments’ with personal data 18, 20, 23, 43–4, 451, 453–4
competition law implications 191–3
see also competition law and data contract law
classification under 33
conformity and fairness principles 31, 34–5
pre-contractual information duties 91–3
proposed contractual regimes 32–4, 92
whether applicable 21–2, 31–2, 37–8
data collected by smart devices 90–94, 107
see also Internet of Things
EU law framework on see also EU law
Digital Content Directive 32–3, 34–5, 37–8, 43, 48, 92
see also Digital Content Directive (Proposal for a Directive on contracts for the supply of digital content COM(2015) 634 final)
GDPR 28, 31, 33
see also GDPR (General Data Protection Regulation (Regulation 2016/679/EU))
Unfair Commercial Practices Directive 38, 92–4
see also consumer law; contract law; data protection; personal data
PayPal 330, 343, 350, 450
see also e-commerce personal data 220–21
contract law applied to 20–22, 27–30
see also contract law; ‘payments’ with personal data, contract law
cross-border data transfers 325, 327–8, 328–9, 331, 336–7, 347–9, 352
see also data localization
Schrems v Data Protection Commissioner (C-362/14) (ECJ) 336, 348
World Trade Organization rulings on 338
data files containing, pledge and attachment of see pledge and attachment of data files (Belgian law)
data localization measures respecting, EU law position 325, 331, 336–7, 347–9, 352
definition 125, 218
of judges 440
see also judicial applications of AI law enforcement use 234–6
see also big data, law enforcement use
loss, liability for 51
‘payments’ with see ‘payments’ with personal data as personality rights 50
personalization of law, facilitated by see personalized law produced by users of digital services 21
pseudonymized and anonymized data 218, 219, 232, 234, 444
sensitive personal data 129, 232
medical data 327, 328, 332
smart devices, collected by see Internet of Things, personal data collected by smart devices theft of 232–3
see also cybercrime and data urban planning, collected for 250, 254
see also smart cities valuation of 20, 22, 38, 52–3
see also big data
personalized law 453
contract law, personalized disclosures 415–17
e-commerce transactions 35–7, 38
targeted advertising see targeted advertising
equality and freedom implications 423–4
granular legal norms 408–9
benefits and feasibility of 413–15
impersonal law, characteristics of 410–11
typifications and legal realizability of norms 411–13, 424
inheritance law, personalized default rules 420–21
marital surnames, personalized default rules 421
‘payments’ with personal data see ‘payments’ with personal data privacy implications 422–3
see also privacy
smart devices see Internet of Things
tort law, personalized standards of care 417–20
see also tort law
see also behavioural economics phishing 231
see also cybercrime and data planning law, data-driven see smart cities
pledge and attachment of data files (Belgian law)
direct methods excluded 108–11, 120, 131
indirectly, via data carriers 111–12, 122–4
disproportionality of 114–15
impracticality of 112–13, 124
ineffectiveness of 113–14
indirectly, via rights over data files 111
data subjects’ rights 125–7
database right, sui generis 111, 118–20, 131
domain names 116
law reform options 121–2
(original) owners of data files 122–7, 131–2
GDPR restrictions on 127–31, 132
see also GDPR (General Data Protection Regulation (Regulation 2016/679/EU))
see also Belgium
Police Directive (Directive 2016/680/EU) 235–6 see also big data, law enforcement use policing using big data see big data, law enforcement use politics freedom of association right 389–90 see also fundamental rights and data political drivers of data localization 333, 337–8 see also data localization targeted political advertising 351, 355, 390 see also targeted advertising Ponemon Institute statistics on data crime 228, 233 see also cybercrime and data Porat, Ariel 414, 417–19, 420 Porcedda, Maria Grazia 240 predictive analytics see big data, predictive analytics PREDPOL predictive policing tool 236, 237 see also automated decision-making; big data, law enforcement use privacy 2, 10, 23, 380–83 concept 381–2 data protection distinguished from 382–3 data retention and cybersurveillance 334–5, 337, 383–5, 394 Data Retention Directive (Directive 2006/24/EC) 384 Digital Rights Ireland Ltd v Minister for Communications, Marine and Natural Resources and Others (C-293/12 and C-594/12) (ECJ) 384, 394 discriminatory practices 392 encryption 385–6 law enforcement, personal data use 234–6 personalized law, implications of 422–3 see also personalized law tax administration, personal data use 315, 319 see also tax administration, data-driven US Supreme Court rulings on, data from Ravellaw 365–6 workers’ rights to 398 see also big data; data protection; fundamental rights and data; personal data property law data files, pledge and attachment of see pledge and attachment of data files (Belgian law) data ownership see data ownership intellectual property see intellectual property and data software as property 10–11, 109 ProPublica (news organization) 392–3 pseudonymized data 218, 234 see also data protection; personal data public administration data-driven see automated decision-making, for public administration; smart cities red tape theory, data science insights see red tape theory, data science insights tax administration see tax administration, data-driven Ravellaw (legal search engine) 365–6, 425 see also legal research, data science for red tape theory, data science insights 274–5, 457–9 agency rules as multidimensional red tape driver 284–5 rule characteristics 288–91 rule stock sizes 285–8 compliance costs and administrative burdens 280–84 empirical research agenda direct compliance costs, measurement 292–9 indirect compliance costs, measurement 299–301 limitations of existing research 291–2
multidimensional red tape concept 276–7, 280
net benefits, measurement 301–3
organizational red tape concept 277–9
see also data science
Reichman, J.H. 138
reverse engineering
algorithms 137
data from, trade secrets protection 136–7, 138
see also trade secrets protection for data
road traffic management see traffic management, data-driven
robots
animals as analogues 68–70
autonomous vehicles 55, 61–2, 74, 76, 79, 81
‘connected’ vehicles 419
drivers’ control over 62, 63, 71, 76, 88
HERE mapping service acquisition decision, German Bundeskartellamt (competition authority) 203–4, 211
see also competition law and data
civil liability for see (semi)autonomous systems, civil liability for definition 58–9
drones 76
legal personality, scope for 64–5
search engines see search engines smart devices see Internet of Things see also artificial intelligence (AI)
Ross (legal search engine) 365, 426
see also legal research, data science for
Rott, Peter 37
Ruger, Theodore 360–61
Russia, data localization measures 324, 327–8, 340–44, 350, 351, 352
see also data localization
sale of goods see consumer law
Samuelson, Pamela 136, 137–8, 147, 149
search engines as data processors 22
see also data protection liability for algorithmic outputs 77–8
Google see Google legal research see legal research, data science for, search engines
secrecy, data 404–6
see also censorship; fundamental rights and data; news reporting
securities
algorithmic trading in 59, 60, 77
see also algorithms
data files, pledge and attachment of see pledge and attachment of data files (Belgian law)
self-driving vehicles see robots, autonomous vehicles
(semi)autonomous systems, civil liability for 55–8, 452–3
algorithms see algorithms alternative regulatory approaches 78–80
autonomy as relative term 60–61
categories of fault 62
defamation 77–8
grounds for liability negligence 67–8, 75–6
product liability 65, 66, 72–5, 80, 81
strict liability 68–72, 74, 75, 77–8, 80, 81
vicarious liability 71–2
parts of autonomous systems
data 66–7
software 65–6
pure economic loss 66, 68, 75, 80, 81–2
risk management 61–2
robots see robots smart devices see Internet of Things
specific regimes 76–8
tortfeasors, potential 62–5
see also artificial intelligence (AI)
sensitive personal data 129, 232
medical data 327, 328, 352
see also medicine and data; personal data
sentencing, automated decision-making 371–2
see also automated decision-making; law enforcement
Shareholder Rights Directive
Directive 2017/828/EU 168–9
see also company law and corporate governance
sharing economy 9
competition law implications 191–3
see also competition law and data
‘Eturas’ UAB v Lietuvos Respublikos konkurencijos taryba (C-74/14) (ECJ) 208–9
service providers
Airbnb 9, 27, 192
eBay 191, 343
Uber 9, 191
transparency concerns 27
see also e-commerce; internet service providers (ISPs); social media
Sichelman, T. 145
Simon, B.M. 145
small and medium-sized enterprises, taxation 312, 314
see also tax administration, data-driven
smart cities
concept 245–6, 257–8
crowd control and public safety 259–60
see also big data, predictive analytics
data collection and processing for 247–8, 256–7
data sources 250, 254, 258
data-driven regulation 248, 250, 272–3
discriminatory practices 269–70, 271, 393–4
see also fundamental rights and data, discrimination
energy efficiency 258, 260, 272
‘nudging’ 252, 256, 267, 370
see also behavioural economics
open data 253, 258–9
predictive analytics see big data, predictive analytics
traffic management see traffic management, data-driven
utilities provision 258, 260
legal challenges 261
citizens converted into consumers 265–7, 273
disconnect between legal frameworks and technologies 262–4
hybrid (public–private) regulation, public interest concerns 246–7, 264–5, 272, 455–6
solutions 270–71
transparency and accountability concerns 255–6, 261–2, 267–70, 272–3
see also automated decision-making; big data; Internet of Things
smart contracting see blockchain and smart contracting
smart devices see Internet of Things
Smith, Adam 155
Snowden, Edward 334, 383–4, 385
social media 25
as big data source see big data
competition law applied to see competition law and data
content moderation 398
data mining from see data mining, social media
digital humanitarianism use 402–4
see also fundamental rights and data
freedom of association, use promoting 389
see also fundamental rights and data
harassment and hate crimes via 391–2, 394–5
see also cybercrime and data; fundamental rights and data, discrimination
mergers
Facebook/WhatsApp (European Commission Decision M.7217) 197, 198–200, 206, 212
Microsoft/LinkedIn (European Commission Decision M.8124) 197, 200–202
Microsoft/Skype (European Commission Decision M.6281) 197–8
personality assessments from use 414
see also personalized law platforms
see also social media, mergers
Facebook see Facebook
LinkedIn 300–301, 344
terms of service 44–7, 399–400
Twitter 46, 254, 260, 336
WhatsApp 192, 335
public administration use 254, 260, 273
sharing economy see sharing economy
software
as algorithms 58
see also algorithms
Apple 335, 339
for data analysis 7
interoperability see competition law and data, data portability and interoperability
Microsoft see Microsoft producers of, civil liability 65–6
as property 10–11, 109
source code, trade secrets protection 137, 138
see also trade secrets protection for data
sovereignty, digital see data localization
spam attacks 229
see also cybercrime and data
Strahilevitz, Lior J. 414, 417, 420
Stucke, Maurice E. 183
surnames on marriage, personalized default rules 421
see also personalized law
Taddeo, Mariarosaria 219
targeted advertising 11, 17, 35–6, 194, 337
addressed in Facebook/WhatsApp merger (European Commission Decision M.7217) 199–200
addressed in Microsoft/LinkedIn (European Commission Decision M.8124) 202
discriminatory practices, alleged 392–3
see also fundamental rights and data, discrimination
political advertising 351, 355, 390
see also consumer law; market manipulation
tax administration, data-driven 9, 304, 321, 455, 459
corporate taxation
corporate income tax 310, 312–13
country by country reporting 308–9, 320
financial accounts 306–9
small and medium-sized enterprises 312, 314
tax accounts 307, 309–10
transfer pricing 312–13, 320
value added tax (VAT) 310–11, 313, 318
wage taxes 311
IOTA (Intra-European Organization of Tax Administrations) report on data analytics (2017)
data management 317–18
data visualization 320
omissions from report 317–18, 319, 320
predictive modelling 318–19, 321
random audits 320
social network analysis 319
in the Netherlands see Netherlands, tax administration
tax authorities
cross-border data sharing 314
equal treatment duties 315–16
fair play duties 316
privacy protection duties 315, 319
role 313–15
tax incentives for local content or labour 327, 328
see also data localization
taxation in the digital economy 305
taxonomies, copyright protection of 142–3
see also copyright
Research handbook in data science and law

terrorism
prevention, data retention and
cybersurveillance for see
privacy, data retention and

cybersurveillance
terrorist attacks, predictions 363
see also big data, predictive
analytics
Thiel, Peter 192–3
tort law 10
damages see damages
data loss see data ownership, liability
for data loss
market manipulation 105–6
see also market manipulation
personalized standards of care
417–20
see also personalized law
robots and algorithms see
(semi)autonomous systems, civil
liability for
United States see United States, tort
law
trade secrets protection for data 133,
145, 185, 218, 451
data from reverse engineering
136–7, 138
data science techniques 138
as data secrecy method 405–6
software source code 137, 138
see also software
theft of trade secrets 232
see also cybercrime and data
US law on 134–8
see also United States
see also intellectual property and
data
traffic management, data-driven 245,
247, 255, 258–9, 272, 326
autonomous vehicles see robots,
autonomous vehicles
personalized standards of care 418,
419–20
see also personalized law; tort law
see also smart cities
training (deep learning) 7–8, 59
see also artificial intelligence (AI)
Trans-Pacific Partnership Agreement
(TPP) 330–31, 345–6, 353
see also data localization
transborder data transfers see personal
data, cross-border data transfers
transfer pricing 312–13, 320
see also tax administration, data-
driven
transparency 448–9, 455–6, 461
consumer law in digital era 24,
26–31, 92–4
see also consumer law
data secrecy methods 404–6
see also censorship; fundamental
rights and data; news
reporting
judicial applications of AI,
transparency requirements
443–4, 456
see also judicial applications of AI
public administration, data-driven
255–6, 261–2, 267–70
see also automated decision-
making, for public
administration; smart cities
see also accountability; fundamental
rights and data
Twitter 46, 254, 260, 336
see also social media
Uber 9, 191
see also internet service providers;
sharing economy
Unfair Commercial Practices Directive
(Directive 2005/29/EC)
applied to market manipulation see
market manipulation, Unfair
Commercial Practices Directive
applied to
applied to personal data exchanged
for ‘free’ services 38, 92–4
see also ‘payments’ with personal
data
failure to disclose data processing
practices 29
on vulnerable consumers 36
Unfair Contract Terms Directive
(Directive 93/13/EEC) 29, 30, 38,
47
United Nations
Declaration on the Rights of
Indigenous Peoples 2007 395
International Covenant on Civil and
Political Rights 1966  382, 383, 389, 390, 394
International Covenant on Economic, Social and Cultural Rights 1966  396
Universal Declaration on Human Rights 1948  382, 389, 390, 394, 396, 407

see also fundamental rights and data
United States
Amazon poster case (United States v Topkins (N.D. Cal))  208
see also competition law and data constitutional rights  378, 381, 386–7, 399, 402
see also fundamental rights and data
data localization measures
see also data localization
foreign government co-operation  335–6
government cybersurveillance  334, 383–4
see also privacy
Trans-Pacific Partnership Agreement (TPP), withdrawal from negotiations  345, 346
World Trade Organization ruling on  338
data protection law  27
Schrems v Data Protection Commissioner (C-362/14) (ECJ)  336, 348
intellectual property and data
see also intellectual property and data
copyright  139–44
database right, sui generis, legislative proposals  146–50, 151
patent law  146
trade secrets protection law  134–8, 451
government job market, impact of data science  374–5
smart cities in  258–9, 271
see also smart cities
Supreme Court

case outcome predictions  360–62, 364, 426–7

privacy rulings, data from Ravellaw  365–6
tort law
see also tort law

product liability  73, 75
respondeat superior (vicarious liability) doctrine  71–2

Universal Declaration on Human Rights 1948 (UN)  382, 389, 390, 394, 396, 407
see also fundamental rights and data

unmanned aerial vehicles (drones)  76
see also robots
urban planning, data-driven see smart cities

value added tax (VAT)  310–11, 313, 318
see also tax administration, data-driven

Van der Elst, Christoph F.  163, 166
vehicles, autonomous see robots, autonomous vehicles
victimization, big data analytics facilitating  225, 227–8, 230–31
see also cybercrime and data

vulnerable consumers in digital era  36, 94, 106, 414
see also consumer law

wage taxes  311
see also tax administration, data-driven

Wall, David S.  222, 226
Wendehorst, Christiane  90
whale phishing  231
see also cybercrime and data

WhatsApp  192, 335

Facebook/WhatsApp merger (European Commission Decision M.7217)  197, 198–200, 206, 212

see also social media

Witteloostuijn, Arjen van  287–8, 302
World Trade Organization  338

Young, Karen  267

Zarsky, Tal  268