Index

Note: Page numbers followed by "*n*" indicate notes.

5G, 38*n*17, 170, 172, 177

Affordable Connectivity Program, 40
Aprendo en casa platforms, 162
Arcadia, 138–140
Artificial intelligence (AI), 36
AstraZeneca, 2
ATU, 174
Autonomous systems (ASes), 49

Big Blue Button, 111
BioNTech, 2
Bizindaalo, 159
Blended learning strategy, 108
Body of European Regulators for Electronic Communications (BEREC), 35, 37
Bring into use (BIU), 183
British Standards Institute (BSI), 123
Broadband, 7
  access services, 20*n*3
  inclusion policies, 39
  network provider performance, 204–207
Broadband providers, 154, 196
  investment incentives, 207–208
Building cooperation, 111

Cable & Wireless (C&W), 162–163
Capital expenditure (CAPEX), 177–178
Caribbean, state of telecommunications and COVID-19 in, 162–165
Central data repository, 130
Cisco, 45
Cisco Webex, 42, 78, 80, 222
Civil society organisations, 230
Clouds, 18, 55, 253, 260
Coding, 105–106
Company Voluntary Agreement (CVA), 139
Consumer Credit Panel (CCP), 95
Content Delivery Networks (CDNs), 21, 30, 44
Content regulation, 237, 258
Cooperation, 111, 114, 159, 159, 163
Coronavirus Aid, Relief, and Economic Security Act (CARES Act), 39*n*19
Coronavirus disease of 2019 (COVID-19), 1–7, 18, 39–42, 47, 52, 65–69, 71–72, 78, 82, 84, 87–88, 92, 103, 105, 109–114, 122, 135–136, 142–145, 153–156, 170, 173, 175–180, 183, 196, 198–199, 202, 207, 209, 216–218, 220, 222, 229–239, 245–250, 254–261
  accelerated networking trends and ecosystem, 48–50
  as change agent, 7, 12, 45, 55, 247–252, 258
  education in time of, 105–108
  effect of COVID-19 on internet traffic, 19–35, 65–69
  Covid-related phishing, 223–225
  crisis, 18, 25, 27, 36, 45, 47–48, 51, 72, 104, 108, 110, 161, 179, 186, 232, 234–235, 245–246, 250–252, 260
  impact on application usage, 21–26
  investment and innovation, 48

pandemic, 8, 11, 21, 47, 72, 92, 105, 110, 115, 153–154, 159, 162, 165, 176, 180, 183, 186, 196, 216–218, 222, 229, 231–235, 247, 256–257, 259, 262
publicly available data, 51–52
retailing success stories, 141
state of telecommunications and COVID-19 in Caribbean, 162–165
state of telecommunications and COVID-19 in Peru, 160–162
state of telecommunications and COVID-19 in Uganda, 156–160
COVID-19 Telehealth Program, 40
Criminal law, 232
Cyber Volunteers 19 (CV19), 219–220
Cyber-attacks, 256–257
Cyber-governance, 257–258
Cybercrime, 216
cybersecurity and remote work, 220–223
online scams and Covid-related phishing, 223–225
ransomware and healthcare organisations, 217–220
Cybersecurity, 51, 81, 216—223, 225, 256–257, 261

Debenhams, 139–140
Demand shocks, 26
Digital divides, 7, 12, 38–41, 44, 47–48, 55, 248, 250, 253–254, 261
Digital dynamic capabilities, 104–105, 112–113
in educational institutions, 111
Digital Equity Act of 2021, 41
Digital infrastructures, 27, 247
Digital literacy, 111, 248, 253, 256–258
education, 111
Digital Pact for Schools, 111
Digital policy responses, 36
Digital scouting, 111
Digital seizing capabilities, 104
Digital sensing capabilities, 104
Digital teaching and learning tools, 103–104
Digital technologies, 246
for teaching and learning, 111
Digital tools, 78–81
Digital transformation, 38
building dynamic capabilities for digital transformation in educational sector, 109–110
digital capabilities, 104
in education, 104–105
literature review, 105–108
theoretical approach, 110–114
Digitalisation, 98
Disaster Management Act, 232
Disinformation, 231, 257–258
Disruption, 37*n*16
Distance learning, 104
Distributional effects, 92–94
Donut effect, 5
Downstream traffic, 30, 78
Dropbox, 44
Dynamic capabilities framework, 104

E-commerce, 5–6, 20
Economic impacts, 154
Education, 256
limitations, 106
method, 105–106
results, 106–108
in time of COVID-19, 105
Educational institutions, 103–104, 110
digital dynamic capabilities in, 111
implications of shift to remote/online learning for, 108, 246, 256
Educational technology (EdTech), 104, 111, 114
Effective digital learning, 108
Emergency Broadband Benefit program, 40
Emergency Connectivity Fund, 40

EU Digital Services Act (DSA), 238
European Commission (EC), 38, 173, 199, 208–209, 246, 258
European Data Governance Act (2020), 130
European Electronic Communications Code (EECC), 78–79
European Union (EU), 2, 35, 72, 173
European Working Conditions Surveys (EWCS), 74
Evil Corp, 220
Extraction, 105–106

Facebook, 237
Fake news, 230–231
  government responses to 'fake news' in times of global health crisis, 231–235
Feasibility of continued remote work as pandemic abates, 88–91
Federal Communications Commission (FCC), 39–40, 196–197, 203
Federal Trade Commission (FTC), 197
Fixed wireless access (FWA), 178
Freedom of expression, 232
Future of networking, 50
Future of work, 255–256

Gender, 93*n*11
General Data Protection Regulation (GDPR), 204
Google, 45, 125–126
Google Docs, 26
Government responses, 249–250
Government responses in USA and EU, 36–41
Great Exploration, 247
Great resignation, 5, 91, 247
Gross domestic product (GDP), 155, 160

H1N1 flu virus (*see* Swine flu)
Health Insurance Portability and Accountability Act (HIPAA), 217
Healthcare organisations, 217–220
High street, 138
Home networks, 19, 51, 257
Hospitals, 217, 219
Human rights, 231

IMT, 172
Infodemic, 229–230
  fake news, 230–231
Information communication and technology (ICT), 158
Information technology (IT), 158
Information-processing tasks, 90
Infrastructure Investment and Jobs Act (IIJA), 40
Innovations, 8, 45, 50, 104, 246–248, 258
Innovative methods, 108
International spectrum management, 173–174, 181–183
Internet, COVID-19 and, 3, 18
  annual changes in cross-country internet traffic, 31
  collective insights for post-COVID-19 future, 45–52
  effect of COVID-19 on internet traffic, 19–35
  future course of pandemic effect, 30–35
  government and private sector responses, 35–45
  impact on application usage, 21–26
  impact on internet traffic, 26–35
  and network performance, 27–29
  traffic patterns, 30
Internet ecosystem, 252
  consolidation and growing tensions in cyberspace, 254
Internet Exchange Points (IXPs), 21, 28, 30, 34, 41–42, 49–50, 78*n*3, 252
Internet service providers (ISPs), 18–19, 21, 27, 29, 41–44, 49, 55, 200, 209, 252–254
Internet of Things (IoT), 129–130, 259

INTERPOL, 222, 224
ITU-R Bureau (BR), 173

Keep Americans Connected pledge, 39, 45

Labour productivity, 74
Learning management systems (LMSs), 109
Liberty Latin America (LLA), 163

Machine learning (ML), 44, 50, 224, 252
Mental health/psychological stress during pandemic, 107–108
Microsoft, 45
Microsoft Teams, 3, 78, 80, 111
Ministry of Internal Affairs and Communications (MIC), 171
Misinformation, 7, 11, 159, 229–238
Multilocational work, 73

National lockdowns, 146
NB-IoT, 130
Net neutrality, 10–11, 41, 196–199, 201–209
Netflix, 20, 37, 176
Netflix Open Connect, 43
Next Generation EU (NGEU), 38

Ocado, 137
Online gaming, 25
Online grocery shopping, 136–138
Online learning, 3, 8, 36, 104, 108–109, 114–115, 163
Online retailers, 137, 139
Online scams, 223–225
Open Internet Order (OIO), 196
Organisation for Economic Co-operation and Development (OECD), 154–155
Over-the-top (OTT), 20, 37, 39, 175–176

Personal data, 127–128, 130, 223
Personal protective equipment (PPE), 164
Personalised learning, 104
Physical presence, 78, 88–89, 91, 182, 256
Policy-makers, 7, 10, 19, 35–41, 52, 56, 88, 97–99, 104, 199, 217, 254, 257
PolicyTracker, 179
Post-COVID-19, 7–8, 18, 27, 45, 129, 246, 248, 260
  collective insights for post-COVID-19 future, 45–52
  new normal, 246
Preparedness, 249–250
Primark, 146–147
Private sector responses, 41–45
Protection from Online Falsehoods and Manipulation Act (POFMA), 233
Public funding, 111
Public institutions, 103

Radio Regulations (RR), 173, 181
Radio Regulations Board (RRB), 173, 183
Radio Sector of the International Telecommunication Union (ITU-R), 170, 181
Ransomware, 217–220
Rapid prototyping, 111
Recovery and Resilience Facility (RFF), 38
REG4COVID, 173
Regulation, 36, 154, 197, 208, 252
Remote work, 72, 220–223
  different impacts on different population groups, 84–86
  different impacts on different sectors, 84
  digital tools, 78–81
  growth of remote work during pandemic, 81–83
  by knowledge workers, 73–74

likely course, 86–97
modern digital services and telecommunications networks, 79
observations and implications for public policy, 97–98
shift to, 74–78
trends, 72–86
Remote/online education, 108
Resilience, 3, 10, 18, 27, 48, 51–52, 55–56, 179, 246, 251
Restoring Internet Freedom Order (RIFO), 196, 206
Retailing, 136
developments, 140–142
dismantling retail empires and closing stores, 138–140
online grocery shopping, 136–138

Sandvine, 21–22, 26, 30, 43, 51, 67, 78
Severe acute respiratory syndrome (SARS), 104
Short message service (SMS), 161
Skype, 80
Slack, 26
Smart city, 122–123, 128, 130
Smart healthcare, 128
Smart lighting systems, 123
Smart logistics, 128–129
Social media, 6, 11, 25, 109, 196, 230–231, 234, 258
companies, 230
platforms responses, 235–238
Socioeconomic impact of COVID-19, 135
Spectrum, 10, 39, 169–170
international spectrum management, 173–174, 181–183
management, 171–173, 179–181
use, 170–171, 174–178
Spotify, 20
Squeezing of landlords, 142–144
Strategic agility, 111
Stringency Index, 155
Structure of book, 7–12
Suitability of jobs, 90
Surveillance, 127–128
Swine flu, 104
Symantec, 220

Telecom policy, 203
Telecommunications networks, 78
Telecommunications providers, 160
Topshop, 138
Trade unions, 86
Trials, 122
Truth in age of pandemics, 238–239
TSDSI, 174
Twitter, 235–236

Uganda, state of telecommunications and COVID-19 in, 156–160
Uganda Communications Commission (UCC), 158–159
UK retail, 135
decline, 144–145
squeezing of landlords, 142–144
Upstream traffic, 30, 78

Veteran's Affairs (VA), 199
Video conferencing, 3–4, 20, 25, 29, 43, 45, 248, 252
Video streaming, 25–26, 29–30*n*12, 176
Virtual private networks (VPNs), 20, 220–221

Waitrose, 138
Warehouses, 137, 144
WebEx, 25*n*6, 39
WhatsApp, 80, 162
Wi-Fi, 130, 169, 170–171, 173–175, 180–181, 183, 186, 201, 204–205
Wireless network, 129–130
Women, 85–86, 93–94, 154, 255
Work from home (WFH), 3, 5, 71, 76, 126, 135, 158–159, 163, 165, 175, 178, 201, 217, 220, 222–223, 225, 248, 250

Worker and employer attitudes towards remote work, 91–92
World Health Organisation, (WHO), 229
World Radiocommunication Conference (WRC), 181
  WRC-03, 180
  WRC-19, 173
  WRC-23, 170, 178, 183

YouTube, 20, 235–236

Zoom, 3–4, 39, 43, 45, 78, 80, 111, 221–222