Index

Accessibility, Availability, Accuracy and Affordability (four As), 177, 180 Accident causation hypothesis, 249 Accra economy, 202-203 Activated sludge model, 101 Adaptation, 290 Administration, 320 Adoption, 333 Advanced technologies, 134 Agriculture, 292-297 AlphaGo, 51-52 Alternative fuel vehicles (AFVs), 332 Amazon Web Services, 279-280 Amsterdam smart city, 199-200 Analytic technologies, 64 Artificial intelligence (AI), 2, 44-45, 51-53, 70, 114, 134-136, 155, 166, 197, 232, 235, 240, 258-259, 278, 291-292 advances technology, 177-178 technology in agriculture, 293 Artificial neural network (ANNs), 232-235 Augmented Reality (AR), 135, 227-228 Automation, 44, 70, 133–135 Autonomous robots, 136 Awareness, 332 of EVs and technology, 336-337 of government assistance in form of policies and incentives, 337-338 Banking, 44 Battery electric vehicle (BEV), 337 Bhuvan, 234 Bias

in AI, 146

in emerging technologies, 155–157 Bibliographic coupling of documents, 5 - 12**Bibliometrics**, 2 analysis, 2 review, 167 Big data, 114, 117, 123 Big data analytics (BDA), 45-46, 278-279 Bio-based nanomaterials, 104-105 Biofuels, 105 Biotech-Krishi Innovation Science Application Network (Biotech-KISAN), 313 Bitcoin. 217 Blockchain, 44, 114, 117, 135, 235–236 blockchain-based solutions, 214-215 for food supply chain disruption management, 322-323 for governance and administration, 324-325 in healthcare systems, 45-46 in higher education, 46-47 for human resource management, 323 for modern education and certification, 324 Blockchain technology (BCT), 103, 217, 235, 291-292, 320 in agriculture, 295-297 and current applications, 321 for healthcare management, 321-322 implications and future research recommendations, 325-326 literature review, 321 against ongoing and future pandemics, 321-325

Blue-collar workers, 308-309 Bowtie model, 249 Business, 147, 149, 151 enabler skills, 67 innovation. 11 sector advancement, 192–193 Carbon market, 214 Cashless economy, 24 City officials, 194 Classroom learning, 228 Classroom teaching, 231 Clean Development Mission (CDM), 104-105 Climate Awareness Bond, 215 Climate change, 215 Climate-smart agricultural practices (CSAP), 290 agriculture and technology 4.0, 292-297 approach, 290-291 industry 4.0, 291-292, 297-298 technology in agriculture, 298-299 Climate-smart agriculture (CSA), 290-291 Cloud computing, 45–46, 114, 123, 135, 231–232, 279–280 Collaborations, 229–231 **COMAX**, 293 Communication skills, 51–52 Competency, 68 Computer-aided design (CAD), 271 Computer-aided manufacturing (CAM), 271 Conceptualisation, 257-258 Confrontation strategies, 51-52 changes in industrial structure and global trend through industry 4.0, 53-54 for employment in industry 4.0, 57-60 impact of industry 4.0 on future employment, 54-56 literature review, 52-53 policy discussion and research implications, 60

Consulting, 44 Contact tracing-Bluetooth technology, 178 Content analysis, 2, 10 Corporate green bonds, 215-216 Corporate social responsibility (CSR), 80-81 Correction methods, 60 COTFLEX, 293 COVID-19 pandemic, 80, 130, 164 Crowdsourcing, 123 Customer centricity, 291–292 Customer relationship management (CRM), 280-281 Cyber-physical systems (CPS), 134, 136-137, 243-244, 271-272 Data analytics, 44, 133–135 Data driven decisions, 231–232 Database, 235-236 Database management systems (DBMS), 235 Dealer knowledge, 339 Decentralised Financing (DeFi), 103 Decision support system, 139 Deglobalisation, 230 Department of Cooperative Governance (DCoG), 203-204 Desktop publishing (DTP), 233-234 **DICOM**, 178 Diffusion of Innovations (DOI), 339 Digital building block skills, 67-68 Digital competencies implications of digital competencies on future of work, 69-70 for sustainability, 68 Digital entrepreneurship, 95-100 and women, 311-312 Digital evolution, 101–102 Digital healthcare, 163-164 challenges of digital healthcare equity, 180 core services, 176 determinant during core services, 176

human factor, 176 keywords from previous articles, 173-175 literature review of study, 164-167 methodology, 167-168 propositions for future studies, 171 resources, 175-176 result, 168-180 study, 176–178 technology and COVID-19, 179-180 Digital image processing, 233–234 Digital inclusion, 310 Digital India, 166 Digital initiatives, 114 conceptual framework, 117-121 dynamic capabilities, 121-124 literature review, 116-117 market performance, 121-122, 124 review of studies, 118-120 Digital leaders, 69 Digital management, 54-56 Digital payments, 30 Digital space, 10 Digital technologies (DTs), 2, 64-65, 176, 205, 227, 229, 243-244, 309 bibliographic coupling of documents, 5-12 contributing countries, 3-4 implications, 14 keyword co-occurrence analysis, 4-5 methodology, 2 publications trend, 2-3 text analysis of future scope, 12 transformation skills, 67-69 Digital tokenisation, 219 Digital tools, 123 Digital transformation, 46-47, 64, 122 digital technology transformation skills, 67-69 to future of work, 64-65 implications of digital competencies on future of work, 69-70

importance of retooling and upskilling for sustainability, 70 - 71new digital age and possible effects on sustainability, 65-66 opportunities and challenges, 71-72 retooling and upskilling for, 70 Digital twins, 276–277 Digital websites, 114 Digital-related competencies, 70 Digitalisation, 2, 14, 64, 164, 258-259 accessibility by respondents, 31 awareness of respondents, 32 frequency of usage, 34 of health, 171-172 in Increasing Women's Workforce Participation, 308-312 methods used by respondents, 33 pre-requisite for online banking, 32 of slum dwellers, 30-34 usage by respondents, 32-33 Digitalising industrial processes, 240 Digitisation, 95-100 Dimension of digital competencies, 68-69 Directory of Open Access Journal (DOAJ), 271–272 Disruptive technological adaptation, 46-47 Disruptive technological innovation, 46-47 Disruptive technologies, 44, 276 future research directions, 47 in professional services, 45-47 Distributed Ledger Technology (DLT), 217-218 Do-it-yourself bonds (DIY bonds), 221 DuPont safety excellence principles, 249 Dynamic capabilities, 115–116, 121 - 124E-commerce, 130 companies, 130-131

factors influencing carbon emission in e-commerce returns, 133 E-health, 166 EC Electronics, 102-103 Economic growth, 150 EcoTEDA initiative, 105-106 Education, 11, 58-59, 323 Education for Sustainability (EfS), 226-227 Educational institutions, 228-230 Efficient market hypothesis (EMH), 115-116 Electric vehicles (EVs), 332 background literature, 333 common theories, 339-340 implications and future scope, 340-341 knowledge, 333 methodology, 333-334 results, 334-339 Electronic health records (EHRs), 177 Embedded sensors, 269-270 Emerging technologies, 155–157 Employees, 59-60 Employment, 51-52 Energy management, 11 Energy trading, 214 Enterprise resource planning (ERP), 271 Enterprises, 57-58 Entrepreneurship, 310-311 Environment, 101 Environment, Social and Governance Investing (ESG Investing), 146 measures, 151-152 practice and problem, 151-152 theoretical and practical implications, 152 Environmental awareness (EA), 338 Environmental deterioration, 215 Environmental justice, problem of bias and implications for, 156-157 Environmental knowledge, 338–339 Ethereum, 295–297 European Free Trade Association (EFTA), 338

European Union (EU), 338 Event study approach, 114 Evolution of employment, 51-52 Explainability, 157 Extended reality (XR), 227-228 Female labour force participation, 308 Fifth Industrial Revolution (Industry 5.0), 94, 101, 239–240, 242 Financial systems and growth, 11 Financing, 214–215 Food management, 11 Food supply chains, 320 Foundational Literacy and Numeracy (FLN), 228–229 Fourth Industrial Revolution (Industry 4.0), 45-46, 51-53, 134, 229, 231, 270 based framework for managing reverse logistics, 137-139 changes in industrial structure and global trend through, 53-54 comparison of industry 4.0 strategies of major countries, 53 confrontation strategies for employment in, 57-60 CSAP, 291-292 frameworks, 280-281 Global Electronics Industry 4.0 Solution Lead at IBM, 281 - 282industrial internet of things technologies, 276-281 impact of industry 4.0 on future employment, 54-56 literature analysis, 271-273 M/s Frost & Sullivan, 282-283 technologies in logistics, 133-137 theoretical background, 273-276 Future employment, impact of industry 4.0 on, 54-56 Future Internet (FI), 269-270 Future of work connecting digital transformation to, 64–65

implications of digital competencies on, 69-70 Fuzzy Logic (FL), 293 Gamification, 235–236 Gender, skills and responsibility, 11 Geospatial technologies, 229-231 Global Electronics Industry 4.0 Solution Lead at IBM, 280 - 282Global Hunger Index, 290 Global Positioning System (GPS), 137 GoDaddy, 279–280 Google Cloud Platform (GCP), 279-280 Google Maps, 230 Governance, 320 Government, 57 Government of India (GOI), 80 Green bonds, 214 objective and methodology, 215-221 Green energy, 104, 216 Green finance, 214-215 Green investment funds, 214 Green technologies, 103-105 Greenease, 102-103 Greenhouse gas emissions (GHG emissions), 290-291 Greenwashing, 216 Gross Domestic Product (GDP), 304 Harvesting, 298 Health, 102 informatics, 177 Health equity, 165, 171–172 previous and recent trends in, 172-175 Healthcare, 44 Heinrich's Law, 249 Heterophilic ties, 82-84 Higher education, 44 Higher purpose, 258, 260-261 Holland's theory, 54-56 Homophilic ties, 82-84 Hospitality, 44

Human capital theory, 305 Human knowledge, 191-192 Human resource management (HRM), 323 blockchain for, 323 Human Rights (HR), 149 Human-centricity approach, 243-244 Humans, 51-52 Hybrid cloud, 279-280 Hybrid review method, 168 Hyperledger, 295–297 IBM Cloud, 279-280 IKEA, 101 Image processing, 232–235 Immersive technologies, 227-228 Indian economy, 24 Individual spirituality, 259 Industrial Internet of Things (IIoT), 271-272 technologies, 276-281 Industrial symbiosis, 105-106 Industry 1.0 evolution to industry 5.0, 247-248 Information and communication technology (ICT), 12, 54, 166, 188–189, 270–271, 308 Information Technology (IT), 123 Infrastructure as a service (IaaS), 231, 279 - 280Innovation, 94, 101-102 Innovative ecosystems, 94-95 Insurance, 44 Integrated skills for digital economy, 67-68 Integration, 227 of industry 5.0 and safety 4.0, 250-251 Intelligent warehousing, 134 Interconnectedness, 258, 261 Intergovernmental Panel on Climate Change (IPCC), 290 Internal combustion engine vehicles (ICEVs), 332

International Business Machines Corporation (IBM), 202-203 International Capital Market Association (ICMA), 214 International Monetary Fund (IMF), 147 Internet. 231–232 Internet of Services (IoS), 282-283 Internet of Things (IoT), 44, 53, 65, 135-136, 188, 205, 246, 258-259, 269-270, 278, 291–292, 321 in agriculture, 295 Internet Protocol (IP), 282–283 Internet-operated therapeutic software, 178 Investments, 214 Investors, 215 Istanbul smart city, 198-199 ITC E-Choupal, 298–299 Johannesburg, South African Smart City, 203-204 Just-In-Time (JIT), 275-276 Kaggle, 234 Keyword co-occurrence analysis, 4-5 Knowledge, 333 Kolkata Municipal Corporation (KMC), 24-25, 27 Lagos smart city context, 201-202 LaTeX, 228 Leadership, 44 competencies, 68 Lesbian, gay, bisexual and transgender queer (LGBTQ), 156 Life cycle assessment (LCA), 11, 282-283 Life Years Index, 319 Low-Middle Income Countries (LMICs), 163-164

M-Health Voice Message Service, 178 M-Pesa, 66–67

M/s. Frost & Sullivan–Framework, 280, 282-283 Machine learning (ML), 2, 45-46, 52-53, 134, 146 Machine-to-machine communication (M-2-M communication), 276 Manufacturing industry, 242 Market performance, 121-122, 124 Market reactions, 114 Market-based methods, 116–117 Massive Open Online Courses (MOOCs), 229–231 Meaningfulness, 258, 260 Metaverse, 227-228 Microsoft, 104 Microsoft Azure, 279-280 Microsoft PowerPoint, 228 Microsoft Word, 228 Millennium Development Goals (MDGs), 226 Mindfulness, 258, 262 Mission Indradhanush, 167 Mitigation of Climate Change in Agriculture programme (MICCA programme), 290-291 Mixed reality (MR), 227-228 mMitra application, 178 Mobile Alliance for Maternal Action (MAMA), 178 Mobile health (m-health), 165 MS Access, 235 MYSQL, 235 Nanoparticles, 104–105 Nanotechnology solutions, 104-105 National Sample Survey Organization (NSSO), 24-25 Nationally Determined Contribution (NDC), 214 Network collaboration, 134 Network ties scholars, 82 New digital age, 65–66

Norm-activation theory (NAT), 340

Notepad, 228 One Laptop per Child (OLPC), 152-153 Online shopping, 130–131 Online trade, 130-131 Open data repository, 232–235 Open Government Data Platform India (OGD Platform India), 234 OpenStreetMap, 234 Oracle, 235 Organisational spirituality, 259 Oslo smart city, 200-201 PACS, 178 Paradigm shift, 157–158 Patient transformation, 164 Performance Auditing and Review approach to Operation (POPMAR), 249 Personal protective equipment (PPE), 246, 250 Piper Alpha tragedy, 245 Plan Do Check Act (PDCA), 249-250 Platform as a Service (Paas), 279-280 **POMME**, 293 Post-harvesting, 298 Pre-harvesting, 297–298 Predictive maintenance, 134, 136–137 Preferred Reporting Items for Systematic Reviews and Meta-Analyses approach (PRISMA approach), 2-3, 334 Prezi, 228 PricewaterhouseCoopers (PwC), 280 Primary account number (PAN), 217 Private cloud, 279-280 Private mobility, 332 Production worker (see Blue-collar workers) Professional services, 44 disruptive technology in, 45-47 Professional services firms (PSFs), 45 Public cloud, 279–280

Public services, 81 Public Services Supply Chain (PSSC), 80 - 81Purchasing power parity (PPP), 148 Rackspace, 279–280 Radio Frequency Identification technology (RFID technology), 133-134, 249-250, 276, 295 Real-time data collection and analysis, 134.136 Real-time visibility, 134 Reduce-Reuse-Recycle, 229 Reference Architecture Model Industry 4.0 model (RAMI 4.0 model), 280 Resiliency, 244 Resilient systems, 320 Resource-based view (RBV), 115-117 Resource/capabilities mechanism, 114 Reverse logistics (RL), 131 factors influencing carbon emission in e-commerce returns, 133 growth of global parcels returns, 131-132 industry 4.0 based framework for managing, 137–139 industry 4.0 technologies in logistics, 133-137 systems, 132–133 RIASEC, 54, 56 Robens Report of 1972, 249 Robotics, 52–53, 70, 278 technology, 240 Robotics process automation (RPA), 278 Robots, 44, 51–52, 276 Safety 2.0, 249 Safety 4.0, 242 drivers, 251 framework of safety management in industry 5.0, 247-251 future work, 252 implications, 251-252

literature review, 242–247 Safety culture, 246-247 Safety intelligence (SI), 240 Safety management, 244-247 evolution, 248-250 framework of safety management in industry 5.0, 247-251 practices, 240 Scalability, 152-155 Scale-up problem, elements of, 153-155 Scholars. 82 Science, 94 Science, technology, engineering and mathematics (STEM), 257 - 258Science mapping method, 168 Securities and Exchange Commission (SEC), 215–216 Security market, 221-222 Seizing, 121-122 Self-help groups (SHGs), 26 Self-image congruency theory, 340 Sensing, 121-122 Sensors, 276 Simple Storage Service (S3), 279-280 Singapore smart city, 197-198 Singapore University of Technology and Design (SUTD), 197 Skilled Through Alternative Routes (STARs), 229 Slum dwellers, 24-25 age of respondents, 28 cashless economy, 24 data analysis and findings, 27-34 demography of respondents, 27-30 digitalisation of slum dwellers, 30 - 34education of respondents, 28-30 geographical location of sample, 27 household structure of respondents, 28 literature review, 25-27 objectives of study, 27 occupation of respondents, 30 research methodology, 27

SDG and women empowerment, 34 - 37slum economy, 24–25 Slum economy, 24-25 Small and medium-sized enterprises (SMEs), 276 Smart cards, 269-270 Smart city, 11, 188 in African Sub-Sharan continent, 194-196 for developed countries and Sub-Saharan African countries, 205framework for case-study evaluation and synthesis, 196 global development and characteristics and framework, 189-194 initiatives and features, 190 insights, 196-204 scorecard, 197 Smart commerce, 192-193 Smart contracts, 323 Smart factory, 58, 243-244, 275-276 Smart manufacturing, 52-53 Smart networking, 193–194 Smart routing, 134, 137 Smartisation, 205 Smartphone services, 193–194 SMARTSOY, 293 Social capital, 191–192 Social media, 231–232 channels, 114 technologies, 64 Social network analysis (SNA), 81 Social networking technologies (SNTs), 81 data collection and analysis, 84-87 perspective, 81-82 research study methodology, 83 theoretical foundation, 81-82 Social networks, 81-82 Social sphere, 83–84 Socio-digital technology, 193-194

Software as a service (SaaS), 231, 279 - 280Solar power, 104–105 South African Smart Cities Framework (SCF), 203-204 Spirituality, 258, 260 Stakeholder theory, 149 Storage solutions, 276 Structured Analysis and Design Technique (SADT), 245-246 Structured Query Language (SQL), 235 Supply chain management (SCM), 280 - 281Sustainability, 2, 45-46, 80-81, 102, 132, 145–146, 214, 225–226, 244 importance of retooling and upskilling for, 70-71 possible effects on, 65-66 and sustainable development, 148 - 149Sustainable cities, 199 Sustainable competitive advantage, 115 Sustainable development, 2, 94-95, 146, 225–226, 305 business, 147-151 strategy, 259 techies, 258-259 technological innovation in, 95-103 Sustainable supply chain, 11 Swiss cheese model, 249 System of Rice Intensification (SRI), 105-106 Systematic literature review (SLR), 2, 168, 333 Techies, 257-258

higher purpose, 260–261 interconnectedness, 261 mindfulness, 262 sustainable development, 258–259 workplace spirituality, 259–260 Technological innovation, 44 challenges in adopting, 105–106

for social and environmental challenges, 101-103 in sustainable development, 95-103 Technology, 66, 94, 188, 191–192 in agriculture, 298-299 characteristics, 191 ITC E-Choupal, 298-299 literature review, 95-96, 99 recent technological advancements, 103-105 technology 4.0, 292-297 Technology acceptance model (TAM), 339-340 Technology intelligence, 270 TECHO technology, 167 Telehealth, 102 Telemedicine, 166, 178 Text analysis, 2 of future scope, 12 Text-to-speech converter (TTS converter), 293 Theory of planned behaviour (TPB), 339 Three-dimensional printers (3D printers), 58 3D printing, 276-277 Tokenisation, 214–215, 217–220 Transforming, 121–122 TreeMap, 272

Uber, 54-56 UN Food and Agriculture Organization (FAO), 290 Unified Theory of Acceptance and Usage of Technology (UTAUT), 340 United Nations (UN), 2, 66, 247, 305, 307 United Nations Environment Programme (UNEP), 65 United Nations Sustainable **Development Goals** (SDGs), 2, 27, 34, 37, 65, 95, 146, 165, 195-196, 214-215, 247, 290, 304-305, 332 localising, 10

women workforce participation, 305-308 Urban slums, 40 Urbanisation, 195-196 Verizon Cloud, 279–280 Virtual and augmented reality (VRAR), 58 Virtual reality (VR), 227-228 VMware, 279-280 Vodafone Sakhi, 313 Waste reduction technologies, 103 Web GIS, 293 Web of Science (WoS), 2, 167, 271–272 Web-based self-help intervention, 178 White-collar jobs, 310 Window dressing, 216 Wireless local area networks (WLAN), 295 Wireless Sensor Network (WSN), 295 Women in agriculture and digitalisation, 309-310 in blue-collar jobs and digitalisation, 308-309

empowerment, 34-37 in entrepreneurship and digitalisation, 310-311 in white-collar jobs and digitalisation, 310 Women workforce participation, 304 barriers to, 305 digitalisation in increasing, 308-312 future research agenda, 313-314 implications, 312-313 and sustainable development goals, 305-308 theoretical background and existing literature on, 305-308 WomenReBOOT, 313 Workplace accidents, 240 spirituality, 258-260 World Bank, 147 World Commission on Environment and Development (WCED), 258 - 259World Economic Forum (WEF), 65 World Health Organization (WHO), 80, 320