

Index

- Academy of Higher Education
 - Leadership (AKEPT), 21
- Accelerated capital allowance (ACA), 107
- Accelerated Programme for Excellence (APEX), 224
- Administrative arrangement, 194
- Advanced Manufacturing Partnership (AMP), 217–218
- Aerospace industry, 62
- Africa, MPO exports to, 87
- Agrarian enhancement program, 82
- Agriculture-based economy, 151–152
- Agrofood Facility (AF), 301
- Air transport, 282–283
- AirAsia Berhad, 282–283
- AirAsia Group Bhd, 62
- All Economic Sector (AES), 300
- Alliance of FinTech Community (aFINity@SC), 241
- Amanah Ikhtiar Malaysia (AIM), 179
- Americas, MPO exports to, 87
- Angkatan Belia Islam Malaysia (ABIM), 155
- Anjung Singgah*, 185–186
- Anti-money laundering, 240, 243
- Artha*, 204
- Artificial intelligence (AI), 5, 18,
 - 26–27, 171, 237
 - research framework, 27
- Asia Europe Meeting (ASEM), 270
- Asia Middle East Dialogue (AMED), 270
- Asia Pacific, MPO exports to, 83–84
- Asia Pacific Economic Cooperation (APEC), 270
- Asian financial crisis (AFC), 132
- Association of the Southeast Nations (ASEAN), 271–272
- Attitude, 245
- Attrition rate, 225
- Austerity, 132
- Automation, 3, 4, 215–216
- Automation and Digitalization Facility (ADF), 301
- Balance of payments (BOP), 131
- Baleh Hydroelectric Dam, 147
- Bank Islam Malaysia Berhad, 240
- Bank Negara Malaysia (BNM), 147,
 - 239, 296–297
 - additional measures by, 300–301
- Bank Simpanan Nasional (BSN), 299
- Big data, 5, 7–8
 - analysis, 142
 - usage, 145–146
- Bilateral diplomacy, 270
- Bills, 244
- Bioeconomy Transformation Program, 98–107
- Biogas at palm oil mills, 89
- “Born digital” business, 76
- Bottom-up policies, 132–133
- Brundtland Report, 94
- Building Information Modeling
 - technology, 66
- Bumiputera Commercial and Industrial Community (BCIC), 260
- Business, 52
 - agility, 143
 - Malaysian initiatives in supporting business sustainability, 146–147
 - networks, 63
 - processes, 237–238

- Business environment effecting
 - Malaysian entrepreneurs, 72–76
 - COVID-19 post environment effect, 73–74
 - fast-changing business environment, 72
 - government policy and enforcement on entrepreneurs, 73
 - nurturing entrepreneurs, 74–76
- Business to consumer (B2C), 286–287
- Capital and financing issues for SMEs, 36
- Capital Markets and Services (CMS), 243
- Capitalism, Socialism and Democracy*, 66
- Central Bank of Malaysia (BNM), 241
- Change, 137
- China, MPO exports to, 85
- Chinese Chamber of Commerce and Industry Malaysia (2018), 35
- CIMB Bank, 240
- Circular economy (CE). *See also* Green economy, 96–113
 - history, 96–97
 - situation in Malaysia, 98–108
- Citilink, 282
- “Click and collect” option, 8
- Clusters, 60–61
- Cognitive model (COGM), 244–245
- Communities of practice, 64
- Competency, accountability, and transparency (CAT), 128
- Competitive advantage, 138–139
- Competitive organizations, 136
 - challenges, 136–138
 - change, 137
 - future uncertainty, 136–137
 - increased competition in market, 138
 - integrity, 138
 - recruiting right talent, 137
 - strategies, 138–144
 - technology advancement, 137–138
- Competitiveness, 139–140
- Competitors, 140
- Comprehensive University (CU), 19
- Concentrated decentralisation, 194
- Conditional movement control order (CMCO), 295
 - in Malaysia, 294–295
- Condor, 282
- Continuity, 268
- Continuous intention to using Fintech services, 245–246
- Cost-effectiveness, 10
- Counter financing of terrorism, 243
- COVID-19, 136, 291–292
 - crisis, 77
 - impact on SMEs, 295–296
 - mental health problem during, 207–208
 - pandemic, 71, 76
 - post environment effect, 73–74
 - scenarios, 293–294
 - suggestions for SME recovery of, 302–303
- Cradle-to-cradle economy, 97
- Creative destruction, 66
- Creativity, 142–143
- Credit
 - assessment, 36
 - card, 236
- Credit Guarantee Corporation (CGC), 297, 301
- Credit Rating Analysis (CRA), 133
- Crowdfunding, 65
- Crude palm oil (CPO), 86
- Culture, 26
- Customer relationship management (CRM), 13–14
- Customization, 10–11
- Data, 143
- Department of Commerce, 288

- Department of Skills Development (DSD), 163
- Developing Eight (D8), 270
- Dharma*, 204
- Diamond-shaped labor market, preparing for, 226–227
- Digital
 - business practice, 39
 - economy, 77
 - entrepreneurship, 76
 - identity supervision, 240
 - law development in Malaysia, 243–244
 - literacy, 226–227
 - revolution, 4
- Digital Free Trade Zone (DFTZ), 241, 286
- Digital Investment Management framework, 243
- Digitalization, 12, 39
 - limitations on implementation, 39–40
 - Malaysian employment landscape, 145–146
- Draft Kuala Lumpur City Plan 2020, 194–195
- E-commerce, 34–35
 - increasing growth in, 286–287
- Early education programs, 155
- East Coast Economic Region (ECER), 195
- East Coast Economic Region Development Council (ECERDC), 195–196
- East Coast Economic Region Development Council Act 2008 (Act 688), 195–196
- East Coast Rail Link (ECRL), 147
- East Malaysia, 280
- Economic
 - corridor, 196
 - development, 92–93
 - policies, 134
 - regions, 195–196
- Economic Fund for National Entrepreneurs (TEKUN), 179–180
- Economic Transformation Program (ETP), 3, 87, 184–185
- Education, 153
 - in human capital development in Malaysia, 160–162
 - objectives, 153
 - structure, 154
 - system of Malaysia, 48–49
- Education Act, The (1996), 23
- Efficiency, 10
- Efficient Management of Electrical Energy Regulation (EMEER), 111–112
- Electric train system (ETS), 283–284
- Electric vehicle (EV), 112–113
- Electrical and electronic products (E&E products), 128
- Electronic commerce, 286–287
- Electronic know-your-customer system (e-KYC system), 243
- Emerging standards, 64
- Employability rate, 167–170
- Employee Provident Fund (EPF), 147
- Employees, 141
- Employer Advisory Services (EAS), 297
- Empty fruit bunch (EFB), 98
- Energy Audit Grant for Industrial sector, 111–112
- Energy efficient vehicle (EEV), 112–113
- Energy Management Gold Standard (EMGS), 111–112
- Enhance Franchise Development Program (EFDP), 256–257
- Enhanced Time of Use tariff (EToU), 111–112
- Enterprise management systems (EMSs), 13–14

- Enterprise resource planning (ERP), 13–14
- Enterprise Survey for Innovation and Entrepreneurship in China (ESIEC), 296
- Entrepreneur Development Ministry, 73
- Entrepreneur Development Programme, 111–112
- Entrepreneur Economic Chamber Malaysia, 75–76
- Entrepreneurial architecture (EA), 18, 25–26
 - culture, 26
 - leadership, 26
 - strategies, 26
 - structures, 26
 - systems, 26
- Entrepreneurial universities (EUs), 18
 - agenda, 24–25, 27
 - Malaysian Higher Education Systems, 19
 - MOHE, 21–24
 - PCs, 20
 - private universities, 19
 - public HEIs, 19
 - UCs, 19
 - World university rankings and Malaysia, 21
- Entrepreneurs
 - based innovation networks, 64
 - government policy and enforcement on, 73
 - nurturing, 74–76
- Entrepreneurship, creativity and innovation in, 60
- Entry point projects (EPP), 87
- Environment development, 93–94
- Environmental Scan (ES), 216
- Environmental sustainability in Malaysia, 109
- ‘Ernst & Young’s census (EY census), 239
- Errors and omissions (EOs), 131
- Europe, MPO exports to, 86
- European settlers and entrepreneurs, 82
- European Union (EU), 86, 271–272
- Existing customers, 141
- Expectation confirmation model (ECM), 244–245
- Expectation confirmation theory (ECT), 245–246
- Exports, 271–272
- Far East Asia Latin America Cooperation (FEALAC), 270
- Federal Land and Development Authority (FELDA), 82
- Federation of Malaysian Manufacturers (FMM), 46, 128–129
- Fifth Fuel Policy, 98–107
- Financial institution (FI), 240
- Financial management problems, 36–37
- Financial service, 237–238
- Financial system
 - key enablers for development of, 129–130
 - safeguarding stability of, 128–129
- Financial Technology Enabler Group (FTEG), 239, 241
- Financing, implication of, 12
- Fintech, 236
 - and banks in Malaysia, 239–241
 - conceptual framework, 248
 - digital law development in Malaysia, 243–244
 - Fintech-friendly industry, 241–242
 - growth, 237
 - literature review and theoretical background, 244–248
 - perceived security protection, 248
 - service knowledge, 247
 - services, 237–244

- Fintech Association of Malaysia (“FAOM”), 241
- “Fintech Hacks” initiative, 239–240
- First industrial revolution, 4
- Fiscal policies, 147
- Focus group discussion, 220–226
method, 220–221
results, 221–226
steps, 222
- Focus University (FU), 19
- Followers, 228–229
- Forecast, 89
- Foreign economic policies and strategies, 270–271
bilateral diplomacy, 270
institution and improving human capital, 271
multilateral diplomacy, 270–271
public diplomacy, 271
- Foreign economics relationship, 271–273
- Foreign labor, 223
- Foreign policy, 268
- Foundation Studies (FSC), 20
- Fourth industrial revolution, 3–5, 66, 139–140, 215–218, 236
benefits of embracing, 10–11
challenges, 9–10
impact, 5–13
recommendation, 13–14
retailers of Malaysian SMEs respond to, 11–12
ways of IR4.0 impact on retailing, 7–9
- Franchise Development Assistance Fund (FDAF), 256–257
- Franchise Development Program (FDP), 256
- Franchise International Malaysia (FIM), 262
- Franchise Malaysia (FM), 262–263
- Franchise supports in Malaysia, 260–263
- Franchi. *See* selection, 264
- Franchising, 256
business, 256
contribution of franchising industry in Malaysia, 258–259
industry in Malaysia, 256–257
issues and challenges in, 264–265
perspective in Malaysia, 255
- Franchisor, 264
- Free Industrial Zones (FIZs), 147
- Free Trade Agreement (FTA), 272
- Fresh fruit bunches (FFBs), 88
- Frog Virtual Learning Environment (FROG VLE), 161
- 14th General Election (GE14), 268
- George Town Conurbation, 194
- GFC, 132
- Global Competitive Index (GCI), 286
2nd pillar in GCI Index, 286
Global Competitiveness Index 4.0, 139
- Global halal authority, 118
- Global Innovation and Creativity Center Social Entrepreneurship (MaGIC SE), 182
- Global Manufacturing Competitiveness Index, 217–218
- Global ratings
effective intermediation for high value-added and high-income economy, 133
enhancing regional and international financial linkages, 131–133
key enablers for development of financial system, 129–130
Malaysia’s economy outlook, 128–129
- Globalization. *See also* Digitalization, 139
- GoGoVan, 287
- Golden Triangle, 194

- Government
 business supports and assistances, 296–301
 of Malaysia, 256–257
 monitoring, 301–302
 policy and enforcement on entrepreneurs, 73
- Government Transformation Plan (GTP), 185–186
- Government-linked corporations (GLCs), 130, 299
- Grab, 287
- GrabExpress, 287
- Graduate employee requirements, 54
 access, 54
 efficiency, 54
 quality, 54
- Grassroots innovation, 183–185
- Greater Kuala Lumpur, 195
- Green economy. *see also* Circular economy (CE), 108–113
 environmental sustainability in Malaysia, 109
 green technology in Malaysia for sustainable business development, 109–111
 Malaysia green technology initiatives, 111–113
- Green manufacturing, 111–112
- Green technology, 96
- Green Technology Master Plan, 109
- Greenhouse gas emission (GHG emission), 109
- Gross domestic product (GDP), 5, 21, 33, 109, 118, 128, 140, 258, 274, 285
- Gross national income (GNI), 82, 98, 128
- Group of Seventy Seven (G77), 270
- Growth, 87
- Habluminallah, improving mental health through fulfilling deeds of, 210
- Habluminannas, improving mental health through fulfilling deeds of, 211–212
- Halal Development Corporation (HDC), 122
- Halal industry, 118
 lessons learning, 124–125
 outlook, constraints, and needs, 119–124
- Halal logistics, 120–122
 constraints, 121
 market outlook, 120–121
 needs, 122
- Halal marketing and sales, 122–123
 constraints, 122–123
 market outlook, 122
 needs, 123
- Halal operation, 123–124
- “Hard to Fill” occupations, 219–220
- High value-added economy, effective intermediation for, 133
- High-income economy, effective intermediation for, 133
- Higher education. *See also* Education, 157–159
 in Malaysia, 49
- Higher education institutions (HEIs), 18
- Higher learning institutions (HLIs), 21
- Higher-order thinking skills (HOTS), 48
- Hong Leong Bank, 240
- Human capital, 152–153
- Human capital development (HCD), 147, 152
 education in, 160–162
 issues and challenges, 167–171
 in Malaysia, 153–159, 162–167
- Human Capital Index (HCI), 145
- Human Resource Development (HRD), 171
- Human Resource Development Fund (HRDF), 147, 163, 297

- Human Resources Development Act, 163
- Imports, 271–272
- IMSME. com. my (portal), 301
- Indian Ocean Rim Association (IORA), 270
- IndiGo, 282
- Industrial building allowance (IBA), 107
- Industrial Energy Efficiency for Malaysian Manufacturing Sector (IEEMS), 111–112
- Industrial mutation, 66
- Industrial revolution, 3–5
evolution, 4–5
- Industrialization. *See also*
Digitalization, 215–216
of Malaysia, 52–53
- Industry
association, 225–226
ecology, 97
- Industry 4. 0 (IR4. 0). *See* Fourth industrial revolution
- Industry value chain (IVC), 119
- Information and communication technology (ICT), 34–35
cluster, 60–61
limitations on implementation, 39–40
skills, 45
- Initial Coin Offerings (ICO), 244
- Inland ports, 281–282
- Inland Revenue Board (IRB), 302
- Innovation, 60, 142–143, 178
markets, 65
networks, 63–65
rate, 170–171
- Innovative industrial cluster, 61–63
- Innovative sectors, expected
transformation of, 65–68
- Institute of Labor Market Information and Analysis (ILMIA), 219
- Integrity, 138
- Intermodal freight transport, 283
- Internal entrepreneur networks, 64
- Internal project teams, 64
- International Data Corporation (IDC), 13
- International Monetary Fund (IMF), 128
- International predegree certifications, 157
- International Trade Administration, 288
- Internet commerce, 286–287
- Internet of Things (IoT), 3, 7–8, 122, 171
- Investment tax allowance (ITA), 107
- Iskandar Malaysia (IM), 195
- Iskandar Regional Development Authority (IRDA), 195–196
- Iskandar Regional Development Authority Act 2007 (Act 664), 195–196
- Islamic finance, 238
- Islamic mental health model, 209–210
- JAKIM (Department of Islamic Development Malaysia), 120–122
- Job attractiveness, 225
- Johor Bahru Conurbation, 194
- Kama*, 204
- Kedah state, 198
- Kedai Rakyat 1Malaysia* (KR1M), 185–186
- KEMAS preschools, 155
- Kentucky Fried Chicken (KFC), 256
- Keretapi Tanah Melayu Berhad (KTMB), 284
- Keretapi Tanah Melayu Intercity (KTM Intercity), 283–284
- Key performance indicators (KPIs), 186, 271
- Klang Valley, 181

- KLIA Air Cargo Terminal 1 (KACT 1), 283
- Klinik 1Malaysia* (K1M), 185–186
- Know-your-customer procedures (KYC procedures), 240
- KTM Komuter, 284
- Kuala Lumpur
 - conurbation, 194
 - internet city, 241
 - structure plan, 194
- Kuala Lumpur International Airport (KLIA), 179, 195, 282
 - KLIA2, 282–283
- Kuantan Conurbation, 194
- Kulim Hightech Park (KHTP), 287
- Kyoto Protocol, 98–107

- Labor intensiveness, 223
- Labuan FSA, 244
- Labuan International Business and Financial Center (“Labuan IBFC”), 238
- Lalamove, 287
- Langkawi International Maritime & Aerospace Exhibition (LIMA), 62
- Last mile logistics, 287
- Late-followers, 229
- Law, 52
- Leaders, 228
- Leadership, 26
- Learning networks, 65
- Light Rail Transit (LRT), 179
 - LRT3, 147
- Light Rapid Transit (LRT), 284
- Local context, 142
- Local governments, 192
- Logistics, 120, 279–280
 - Department of Commerce, 288
 - economic growth, 285–286
 - increasing growth in e-commerce, 286–287
 - International Trade Administration, 288
 - new international airport, 287
 - regional supply chain linkages, 286
 - sector, 285–286
 - strategic geographical location, 285
 - strength of transportation services, 286
 - STS transfer, 288
 - United States of America, 288

- Machinery and equipment sector (M&E sector), 215–216
 - analyzing challenges facing by M&E sector of Malaysia, 219–220
 - challenges, 219–220
 - method, 219
- Madrid Protocol, 244
- MaGRIs project, 183
- Majlis Amanah Rakyat (MARA), 146
- Malayan Banking Berhad (Maybank), 240–241
- Malaysia, 151–152, 191–192, 280–281
 - CE situation in, 98–108
 - economy outlook, 128–129
 - education system of, 48–49
 - environmental sustainability in, 109
 - Fintech services in, 239
 - foreign policy, 268–270
 - franchise supports in, 260–263
 - franchising in, 255–257
 - HCD in, 153–159, 162–167
 - industrialization, 52–53
 - public universities, 20, 22
 - retail sector in, 2–3
 - safeguarding stability of financial system, 128–129
 - scenario of mental health in world and, 202–204
 - SD in, 95–96
 - SMEs in, 292
 - STEM components in, 47, 50–51
 - trade performance, 274–278
 - value proposition to Fintech players, 238

- World university rankings and, 21
- Malaysia Airlines (MAS), 283
- Malaysia Airport Holdings Berhad (MAHB), 282
- 1Malaysia Biomass Elective Procedure (1MBAS), 82
- Malaysia Digital Economic Corporation (MDEC), 286, 302
- Malaysia Digital Hub, 242
- Malaysia Education Blueprint (2015–2025), 18, 49–50, 162–163
- Malaysia Energy Efficiency and Solar Thermal Application Project (MAEESTA Project), 111–112
- Malaysia Franchise Act (1998), 262–263
- Malaysia Franchise Association (MFA), 257, 262
- Malaysia green technology initiatives, 111–113
- Malaysia International Halal Showcase (MIHAS), 122
- Malaysia National Cancer Institute, 66
- Malaysia Palm Oil Board (MPOB), 86
- Malaysia Plan, 193
 - 10th Malaysia Plan, 193
 - 11th Malaysia Plan, 178–179, 215–216
- Malaysia Quality Agency (MQA), 23
- 2020 Malaysia Roadmap toward Zero Single-use Plastics (2018–2030), 98
- 1Malaysia Training Scheme (SL1M), 166
- Malaysian British Institute (BMI), 146
- Malaysian central bank, 239
- Malaysian Certificate of Education, 225
- Malaysian context, 178–186
 - grassroots innovation, 183–185
 - microfinancing, 179–181
 - public service delivery, 183–186
 - social entrepreneurship, 181–182
- Malaysian Employer Federation (MEF), 205
- Malaysian entrepreneurial behavior and attitudes, 75
- Malaysian equity market, 68
- Malaysian France Institute (MFI), 146
- Malaysian German Institute (GMI), 146
- Malaysian Global Innovation and Creativity Center (MaGIC), 180–181
- Malaysian government, 60
- Malaysian Higher Education Certificate (STPM), 157
- Malaysian Higher Education Systems, 19
- Malaysian Highway Authority, 281
- Malaysian industries, 62
- Malaysian Investment Development Authority (MIDA), 62
- Malaysian palm oil industry (MPO industry), 82–87
 - regional market performance, 83–87
- Malaysian professional service sector, 68
- Malaysian public and private universities, 19
- Malaysian Qualifications Agency (MQA), 20, 158
- Malaysian Qualifications Agency Act (2007), 23
- Malaysian Qualifications Framework (MQF), 158–159
- Malaysian Skills award, 163
- Malaysian SMEs, 31–32, 44
 - capital and financing issues for smes, 36
 - contributions, 32–33
 - financial management problems, 36–37
 - issues and challenges, 34–40

- lack of facilities and infrastructure, 38
- limitations on implementation of
 - ICT or digitalization, 39–40
- limited market, 37
- low networking with large firms, 38–39
- obstacles obtaining raw material, 37–38
- reluctant to attend training, 38
- rising cost of running business, 37
- unskilled labor, 38
- Malaysian Technical Cooperation Program (MTCPP), 270
- Malaysian Technical University Network (MTUN), 159
- Manufacturing
 - industry, 215–216
 - sector, 67
- MARA Japan Industrial Institute (MJII), 146
- Maritime, 283
- Mass Rapid Transit (MRT), 284
- Mass Rapid Transit Line 2 (MRT2), 147
- McDonalds (McD), 256
- Mental disorder
 - awareness, 205
 - problems, 206
- Mental health
 - challenges and issues, 205–207
 - through fulfilling deeds of
 - Habluminallah, 210
 - through fulfilling deeds of
 - Habluminannas, 211–212
 - Islamic mental health model, 209–210
 - problem during COVID-19 pandemic, 207–208
 - scenario of mental health in world and Malaysia, 202–204
- Mental illness, 203–204
- Metropolitan planning system, 194–195
- Micro Enterprises Facility (MEF), 301
- Microfinancing, 179–181
- Middle East, MPO exports to, 85
- Ministry of Domestic Trade,
 - Cooperative and Consumerism (MDTCC), 260–261
- Ministry of Domestic Trade and Consumer Affairs (MDTCA), 258, 259
- Ministry of Education (MoE), 155, 166
 - building in Putrajaya, 22
- Ministry of Energy, Science, Technology, Environment and Climate Change (MESTECC), 60
- Ministry of Entrepreneur and Cooperative Development (MECD), 260–261
- Ministry of Entrepreneur Development (MED), 182
- Ministry of Entrepreneur Development and Cooperative (MEDAC), 261
- Ministry of Finance Incorporated (MOF Inc), 261
- Ministry of Higher Education (MOHE), 19, 21–24, 153–154, 158
- Ministry of International Trade & Industry (MITI), 286
- Ministry of Science, Technology and Innovation (MOSTI), 183
- Mobile broadband, 39–40
- Modes of transport, 280
- Moksha*, 204
- Monetary policies, 147
- Money service businesses, 243
- Monorail, 284
- Morals, 212
- Movement control order (MCO), 208, 295
 - in Malaysia, 294–295
- Multichannel offerings, 8
- Multilateral diplomacy, 270–271

- Multimedia Super Corridor (MSC), 107, 242
- MyHIJAU SME, 111–112
- National Accreditation Board Act (1996). *See* Malaysian Qualifications Agency Act (2007)
- National Agency of Innovation Malaysia (AIM), 183
- National Biofuel Policy, 98–107
- National Biomass Strategy (NBS), 98
NBS2020, 98
- National Biotechnology policy, 98–107
- National Blue Ocean Strategy (NBOS), 185–186
- National Council of Higher Education Act, The (1996), 23
- National eCommerce Council (NeCC), 286
- National Entrepreneur and SME Development Council (NESDC), 301
- National Entrepreneurship Framework (NEF), 182
- National Franchise Development Blueprint (NFDB), 256–257
- National Franchise Development Plan (NFDP), 256–257
- National Green Technology Policy (NGTP), 98–107, 109
- National Health Morbidity Survey (NHMS), 206
- National Key Economics Areas (NKEA), 3, 87
- National Occupational Skills Standards (NOSS), 163
- National Philosophy of Education, 153–154
- National Physical Plan (NPP), 192
- National Policy on Industry 4.0, 60
- National Policy on Science, Technology and Innovation (NPSTI), 184–185
- National schools, 155
- National Urbanisation Policy (NUP), 194
- National Vocational Training Council (NVTC). *See* Department of Skills Development (DSD)
- Networking and collaboration with other countries, 146
- New Economic Model (NEM), 52–53, 184–185, 292
- New Economic Policy (NEP), 292
- New international airport, 287
- New markets, 141
- New products or process development consortium, 64
- New resource approaches, 65
New Straits Times, 296
- New technology development consortium, 64
- Non-Aligned Movement (NAM), 270
- Nonfinancial public corporations (NFPCs), 131
- North Africa, MPO exports to, 85
- North Borneo Railway, 284
- Northern corridor economic region (NCER), 195–198
- Northern Corridor Implementation Authority (NCIA), 195–197
- Northern Corridor Implementation Authority Act 2008 (Act 687), 195–196
- Oil extraction rate (OER), 88–89
- Oil palm (*Elaeis guineensis*), 81–82
plantation, 82
- Oleo derivatives, 89
- On Competition* (Porter), 61
- Online entrepreneurial startups, 77
- Open Application Programming Interface (Open API), 243
- Open innovation. *See also* Innovation, 63
network management, 65
- Orbit, 242

- Organization competitive challenges, 140
- Organization for Economic Co-operation and Development (OECD), 60
- Organization of Islamic Corporation (OIC), 270
- Organization sustainability, Malaysian strategies and initiatives in supporting, 144–147
- Organization's image, 140
- Outsiders, 229
- Padang Besar Inland Port, 281–282
- Palm oil, 82
 - accelerating replanting, 88
 - biogas at palm oil mills, 89
 - expediting growth in food and health-based downstream segments, 89–90
 - future of, 87–90
 - improving fresh fruit bunch yield, 88
 - improving worker productivity, 88
 - increasing oil extraction rate, 88–89
 - oleo derivatives, 89
 - second-generation biofuels, 89
- Palm Oil Mill Effluent (POME), 89, 98
- Pan Borne Highway, 281
- Partnership opportunities, 144
- “Pay-for-impact” exchange, 183
- Payment express (PEX), 240
- Peer-to-peer lending (P2P lending), 242
- Pembangunan Sumber Manusia Berhad Act (PSMB Act), 147, 163–165
- Pembiayaan Mikro*, 180
- Peninsular Malaysia. *See* East Malaysia
- Perak state, 198
- Perbadanan Nasional Berhad (PNS), 257, 260–262
- Perbadanan Tabung Pendidikan Tinggi Nasional (PTPTN), 21
- Perceived ease of use (PEU), 244–246
- Perceived security protection, 248
- Perceived usefulness (PU), 244–246
- Perlis state, 198
- Perpaduan preschool, 155
- Plastic pollution, 107
- Policy, 88
- Port Bintulu, 283
- Port Johor, 283
- Port Kemaman, 283
- Port Klang, 283
- Port Kuantan, 283
- Port of Tanjung Pelepas (PTP), 281–282
- Port Penang, 283
- Port Tanjung Pelepas, 283
- Postsecondary education. *See* Preuniversity education
- Preschool education, 154–155
- Preuniversity education, 156–157
- PRIHATIN PLUS, 298–301
- Prihatin Rakyat (PRIHATIN), 296–298
- Primary education, 155, 156
- Primary School Achievement Test, 155
- Private colleges (PCs), 19–20
- Private higher educational institutions, 157–158
- Private Higher Educational Institutions Act, The (1996), 23
- Private schools, 155
- Private universities, 19
- Process skills, 47
- Productivity improvement, 10
- Public debt, 132
- Public diplomacy, 271
- Public HEIs, 19
- Public higher educational institutions, 157–158
- Public organizations, 208
- Public servants, 208
- Public service delivery, 183–186

- Public-private partnerships (PPPs), 195–196
 - issues and challenges, 186–187
 - model, 178–179
- Quadrelli Symonds (QS), 21
- Quantitative easing (QE), 132
- QUEST System (Malaysian Quality Assessment System for Private Colleges), 24
- Rail transport, 283–284
- Readiness of SMEs retail, 9
- Recombinant innovation networks, 65
- Regional plan, 195
- Regional Planning Committee (RPC), 195
- Regional policy, 196–197
- Register of Franchise, 262
- Regtech, 241
- Renewable energy, 98–107
- Renewable Energy Act 2011, 98–107
- Renewable Energy Policy and Action Plan, 98–107
- Renewable Energy Transition Roadmap (RETR), 98
- Research and Development (R&D), 23, 163
- Research Universities (RUs), 19
- Retail(ing), 1
 - sector in Malaysia, 2–3
 - ways of IR4.0 impact on, 7–9
- Retailers, 8
 - benefits for, 11
 - issues facing by SMEs and, 12–13
 - of Malaysian SMEs respond to IR 4.0, 11–12
- Return on Sales (ROS), 223
- RHB Bank Berhad, 241
- Road transport, 281–282
- Robotics, 8–9
- Robots, 8
- Sabah Development Corridor (SDC), 196
- Sabah ports, 283, 284
- Sabah State Railway, 284
- Sandbox Framework, 243
- Sarawak Corridor of Renewable Energy (SCORE), 196
- Sarawak ports, 283
- Sarawak Water Supply Grid Program, 147
- Satisfaction, 245
- “Scan and deliver” features, 8
- Schenker Logistics, 120–121
- Schizophrenia (SCZ), 205
- Schools’ system transformation, 145
- Science & technology (S&T)
 - policy, 183
 - skilled employment, 46
- Science, technology, and Innovation (STI), 183
- Science, Technology, Engineering, and Mathematics education (STEM education), 46–47, 145
 - components in Malaysia, 47
 - education system of Malaysia, 48–49
 - gap between STEM demands and offerings, 51–52
 - graduate employee requirements, 54
 - industrialization of Malaysia, 52–53
 - literature review, 48
 - in Malaysia, 50–51
 - student performance in science and mathematics, 48
- Second industrial revolution, 4
- Second-generation biofuels, 89
- Secondary education, 156, 157
- Sectoral networks, 64
- Securities Commission (SC), 241
- Self-efficacy, 247
- Service industry, 67
- SETARA (Rating System for Malaysia HEIs), 24

- Severe acute respiratory syndrome
coronavirus 2 (SARS-
CoV-2), 293–294
- Shahada, 212
- Ship-to-ship transfer (STS transfer),
288
- Short and landing take-off ports
(STOLport), 282
- Small and medium-sized enterprises
(SMEs), 31–32, 44, 60, 73,
107, 219–220, 291–292
- benefits for, 10–11
 - impact of COVID-19 on, 295–296
 - in Malaysia, 292
 - readiness, 9
 - retailing, 1–3
 - SME Corp, 302
 - SME Corp. Malaysia, 34–35
- Small Renewable Energy Program,
98–107
- Social development, 93
- Social Enterprise Accreditation (SEA),
182
- Social entrepreneurship, 181–182
- Social Impact Exchange (SIX), 183
- Social innovation, 178, 186
- Social Outcome Fund (SOF), 181
- Social Public–Private Partnership
(Social PPP), 182
- Social purpose organizations (SPOs),
182
- Social sciences, 52
- Social Security Organization (SOCISO),
299
- Socioeconomic
growth, 163
- planning systems at national level,
192–194
- Spatial clusters, 64
- Spatial development, 195
- Spatial planning system, 192
- Special Relief Facility (SRF), 297, 300
- Steady-state economy, 97
- Stigma, 206
- Strategic capabilities, 136
- Strategic digital entrepreneurship,
76–77
- Strategic roadmap, 216
- analyzing challenges facing by
M&E sector of Malaysia,
219–220
 - development, 226–230
 - focus group discussion, 220–226
 - reacting to Industry 4. 0, 216–218
- Streamyx, 39–40
- Strengths of business, 142
- Strong industry body, 221–223
- Subcontinent region, MPO exports to,
85–86
- Supply chain
- learning, 65
 - management, 279–280
- Sustainability, 96–97
- Sustainable competitive advantage
(SCA), 268
- Sustainable development (SD), 92–95
- CE, 96–108
 - green economy, 108–113
 - in Malaysia, 95–96
 - pillars, 93
- Sustainable Development Financing
Fund, 98
- Sustainable Development Goals
(SDGs), 95, 96
- Syarikat Jaminan Pembiayaan
Perniagaan (SJPP), 297
- Targeted incentives, transitioning
through, 227–229
- Tax holiday effect, 130
- Tebedu Inland Port, 281–282
- Technical and Vocational Education
and Training programs
(TVET programs), 54, 159,
221–223
- Technical skills, 47
- Technical Vocational Education and
Training (TVET), 145

- Technological parks, 60–61, 67
- Technology acceptance model (TAM), 244–245
- Technology advancement, 137–138
- Technology continuance theory (TCT), 244–245
- Technology Park Malaysia (TPM), 60–61
- Technology-driven innovation, 61
- Technopreneurs, 60–61
- Tenth Malaysia Plan (10MP), 292
- Tertiary education, 157–159
- Testlab, 229–230
- Theory of Reasoned Action, 244–245
- Third industrial revolution, 4–5
- 3D printing, 8
- Time, 39–40
- Titan, 242
- Transformation, 60–61
- Transition process, 229–230
- Transport infrastructure, 280
- Transportation, 280

- Uncertainty, 136–137
- Unifi, 39–40
- Unique selling point (USP), 140
- United Kingdom (UK), 118
- United Nations (UN), 96–97, 268
- United Nations Decade of Sustainable Development (DESD), 92–94
- United Nations Framework Convention on Climate Change (UNFCCC), 109
- United Nations Sustainable Development Summit, 95

- United States of America, 288
- Universities, 18–19
- University College of Dublin (UCD), 23
- University colleges (UCs), 19
- Unskilled labor, 38
- Upper middle income country (UM income country), 128
- Urban areas, 195
- Urban Transformation Centers (UTC), 185–186
- User networks, 65

- Value chain, 223–224
- Value chain analysis (VCA), 118–119

- Water transport, 283
- West Malaysia, 280
- Workforce
 - gaps and challenges, 224–225
 - training, 12
- Working silos, 143
- World and Asian University Rankings (WUR/AUR), 21
- World Economic Forum (WEF), 166
- World Health Organization (WHO), 202
- World university rankings, 21
- Yayasan Usaha Maju (YUM), 179–180
- YIM (Malaysia Innovation Foundation), 183
- “Your Success Begins Here” (TPM motto), 60