

INDEX

- Acquisitions, 131
Adoptions of new technologies, 3
Advanced economies, 183
Advanced Nations, 96
Advanced Research Projects Agency (ARPA), 202
Africa, 9, 15, 16, 46, 94, 183, 218
 cell phone usage in, 47
Ages, historical, 165
 naming of, 165
Aging populations, 12
Aiken, Howard, 201
Alaska, 15
American Association for the Advancement of Science, 203
American Banking Association (ABA), 49, 149
 Banking Journal, 149
American Federation of Information Processing Societies (AFIPS), 50
Anderson, Chris, 178
Apple Computer, 6, 155
Argentina, 110
Asian Development Bank (ADB), 118
Aspray, William, 212
Association for Computing Machinery (ACM), 50, 195
ATMs, 48, 56, 59, 142
Australia, 76, 82, 98, 111
Austria, 110
Back to the Future, 178
Bank of America, 53
Bar coding, 142
Baumol, William J., 95
Bell, Daniel, 176
Berger, Susanne, 80
Berkeley, Edmund C., 5
Best practices, 138, 141
Big Picture, The, 1, 16, 75
BINAC, 33
Blackberries, 3
Blogs, 111, 235
Brazil, 9, 13, 80, 99, 109, 110
Burroughs Corp., 35, 52, 56, 202
Business environments conducive to
 the use of modern IT, 79
Business leaders, 112
Business Software Alliance (BSA), 104

- CAD/CAM software, 48
 Calculating equipment, 59
 California, 18, 51
 Call centers, 94
 Canada, 35, 109
 Canovas del Castillo, Antonio, 185
 Carbon footprint, 16
 Carbon-based pollution, 15
 Castells, Manuel, 1, 4, 9, 73, 85, 176, 178
 Center for Disease Control (CDC), 31
 Cell phones, 2, 6
 Censorship, 111, 112
 Chandler, Alfred D., Jr., 39
 Chile, 82, 92, 98, 109, 110
 China, 8, 14, 15, 17, 18, 43, 45, 55, 77, 80, 84, 92, 102, 111, 214, 253
 Chrysler Corp., 54
 Chu, Steven, 220
 Climate Savers Computing Initiative (CSCI), 208
 Clinton, Bill, 23
 Cold War, 43, 62
 Colossus systems, 35
Communications of the ACM, 197
 Compagnie Internationale de l'Informatique (Cii), 37
 Computer Age, 177
 Computer scientists, 192
 Computer Society; *see* IEEE Computer Society
 Computer-based tools, 3
 Computers, 27
 Computing, 2, 4
 Confederated enterprise, 133
 Connectivity, 78
 Consumer and business adoption of telecommunications, 90
 Consumer Electronics Association (CEA), 51
 Consumer Electronics Show, 51
 Consumer goods, 3
 Converged technology, 239
 Coopey, Richard, 81
 Copyright, patent, and property protection laws, 76, 83
 Copyrights, 183
 Corporations, 18
 Cuba, 43, 92
 Cybernetics, 5
 Czech Republic, 110
 DARPA, 202
 Data centers, 244
 Data Processing Management Association (DPMA), 50, 248
 Deacquisition, 134
 DEC, 31, 56
 DeGaulle, Charles, 37
 Dell Corp., 207
 Democratic Republic of the Congo, 47
 Demographics, 12, 14
 Denial-of-service (DoS) attacks, 111
 Denmark, 82
 Deployment, 30
 Developing nations, 6
 Digital cameras, 2
 Digital rights, 83
 Digital technologies, 18
 East Germany, 43, 44
 eBay, 18, 85, 112
 Eckert-Mauchly Computer Company, 201
 Economic development, 75, 77
 Economist Intelligence Unit, EIU, 55, 73, 88, 91
 Education, 86
 E-mail, 2, 11
 Emerging economies, 183
 Encouraging emergence of new high-tech services, 87
 Engineers, 191
 ENIAC, 33
 Environmental issues, 183
 Environmentalists, 208
 ERA, 202
 Eras, historical, 165
 ERMA, 53
 Estonia, 44, 80, 98, 200
 European Academy of Sciences and Arts, 203
 European Commission (EC), 73
 European Union (EU), 10, 55, 58, 79, 84
 Fashion, role of, 143
 Finland, 36, 91, 117

- First Industrial Revolution, 87
 Ford Corp., 54
 France, 37, 38, 83, 103
 French national champion model, 61
 Friedman, Thomas, 85, 178
 Future of IT, 223
 - strategy for managers and public officials, 240
 - role of the computer science community, 247
 - ultimate trend, 252
 G-20 nations, 103
 Gamma 3, 37
 Gates, Bill, 51
 General Electric Co. (GE), 37, 52
 General Motors Corp., 54, 55, 214
 Germany, 36
 Global economy, 1
 Global recession, 102
 Global warming, 15
 Globalization, 8, 9, 10, 11, 14
 Goldwater, Barry, 202
 Google, 19, 112, 235, 253
 Government agencies, 12
 Governments, role of in IT, 82, 87, 91
 GPS, 240
 Great Britain, 35, 82, 103
 Great Depression of the 1930s, 102, 105
 Green Computing Impact Organization, Inc., 208
 Green Electronics Council, 208
 Green Grid, 208
 Green issues, 204, 211
 Greenspan, Alan, 43, 58, 64

 Hacker activities, 111
 Harsha, Peter, 202
 Historians, 167
 Honeywell Corp., 38
 Hong Kong, 82
 Hughes, Thomas P., 176
 Hungary, 98, 110
 Huntington, Samuel P., 174

 IBM Corp., 7, 30, 31, 33, 35, 44, 52, 53, 54, 55, 56, 60, 120, 154, 193, 194, 198, 201, 202, 210, 231
 - IBM-compatible computer, 31
 - System 360, 31
 IBM Institute for Value, 91
 ICL, 35
 Institute of Electrical and Electronics Engineers (IEEE), 196, 201, 204, 219
 IEEE Computer Society (CS), 192, 193, 195, 211, 217, 219
 - Committee on Public Policy, 196
 IEEE International Conference on Computer Design, 211
 Improving internal operations, 140
 Incremental decisions, 139
 India, 9, 14, 15, 17, 18, 46, 80, 87, 94, 184, 213
 Indonesia, 41
 Industry associations, 49, 50
 Information Age, 163, 167, 171, 172, 175
 - case against, 173
 Information technology; *see* IT
 Information Technology Innovation Institute, 103
 Innovation, 29
 Intel Corp., 6
 Intellectual property., 83
 Internal Revenue Service (IRS), 144
 International Monetary Fund (IMF), 93
 Internet, 2, 4, 11, 29, 57, 85, 90, 111, 235, 239, 242
Internet Computing, 104
 Internet service provider (ISP), 235
 iPod, 3, 6, 23, 57, 59
 Ireland, 15, 77, 82, 94
 Israel, 92, 98, 110
 IT, 1, 2, 3, 4, 6, 7, 8, 9, 11, 12, 13, 15, 16, 17, 19, 20, 21, 22, 23, 24, 27, 28, 29, 30, 31, 34, 38, 39, 45, 48, 52, 54, 56, 57, 64, 71, 74, 78, 84, 85, 87, 92, 94, 99, 104, 129, 156, 198, 200, 214, 217, 223, 231, 238, 242, 248, 249, 250, 251
 - acquisitions, 130
 - business environments conducive to bad practices, 144
 - best practices, 144
 - consumer and business adoptions of, 81

- IT (*continued*)
 emerging strategies for, 96
 future of, 225
 green issues, 204
 industries, role of, 149
 justification for the use of, 135
 policies and practices, 116
 professional associations, 195
 role for scientists and engineers in,
 191
 security issues, 118
- IT diffusion, 29
 application diffusion model, 57
 Asian private-sector-driven model,
 39
 corporate diffusion model, 51
 governments, role of, 107
 government-supported/private-
 sector-driven model, 33
 IBM and, 107
 implications for public officials, 106
 industry-driven model, 48
 Internet and, 108
 national champion model, 37
 patterns, practices, and
 implications, 61
 planned economy: public policy
 model, 42
 role of government in, 71
 role of labor in, 100
 technology-standards diffusion
 model, 59
 types of, 32
- Japan, 15, 36, 40, 54, 98
 Jobs, Steven, 51, 155
 Johnson, Lyndon, 202
- Knowledge economy, 179
- Labor, 100, 101
 Lagarde, Christine, 83
 Laptops, 3, 7, 23
 Latin America, 14, 218
 Latvia, 92
 Lawrence Berkeley National
 Laboratory, 210
 Laws and regulations, 83
 Legal and policy environments, 82
- Lithuania, 44, 80
Lord of the Rings, 213
 Lyons Teashops, 35
- Machines Bull, 37
 Malaysia, 80
 Managerial practices, 138
 Managers, 129, 153
 kinds of decisions made by, 131
 Marwick, Arthur, 169
 Massachusetts Institute of Technology
 (MIT), 6, 200, 209, 214
 May, Ernest R., 185
 McDonnell-Douglas Corp., 52
 Megatrends, 7, 12, 20
 Mexico, 98, 109
 Microsoft Corp., 19, 30, 60, 120, 121
 Mitterand, François, 38
 Mobile communications, 235
 Moe, Espen, 88
 Moore's Law, 236
- Nanotechnology, 236
 National Aeronautics and Space
 Administration (NASA), 202
 National Energy Research Scientific
 Computer Center at Berkeley
 Lab, 210
 National Science Foundation (NSF),
 198
 NATO, 77
 NCR Corp., 35, 52, 154, 202
 Negroponte, Nicholas, 6, 13, 28, 46,
 200, 209
 Nelson, Richard R., 95
 Netherlands, 36, 54, 77, 82
 Neustadt, Richard E., 185
 New Economy, 163
 New Zealand, 9, 82, 110, 213
 Niche suppliers, 48
 Nigeria, 16, 111
 Nongovernment organizations (NGOs),
 11
 Nonprofit organizations (NPOs), 11
 North American Free Trade
 Agreement (NAFTA), 93
- Obama, Barack, 104, 220
 OECD, 55, 79

- Office appliance industry, 170
- Officials, role of, 129
- Oil and natural gas, 15
- One Laptop Per Child program, 28
- Open-source computing, 248
- Outsourcing, 132

- Palmisano, Samuel, 103
- Parochialism, 148
- Patents, 183
- Path dependency, 30, 178, 233
- Perez, Carlotta, 179, 215
- Perot, Ross, 214
- Personal computers, 3, 4
- Peru, 200
- Pharmaceutical industry, 229
- Philippines, 41
- Philips Corp., 54
- Point-of-sale (POS) terminals, 48
- Poland, 44, 98
- Portugal, 98
- Productivity, 100
- Productivity paradox, 141
- Protecting and expanding social and cultural environments, 85
- Protections needed for innovation, 82
- Pursell, Carroll, 176

- QWERTY-type keyboard, 60

- Radio-frequency identification technologies (RFID), 142
- Rapidly advancing nations, 96
- Regionalist political aspirations, 18
- Risk, 113, 114, 139
- Robots, 5
- Rogers, Everett M., 29
- Royal Meteorological Society, 203
- Russia, 14, 15, 16, 44, 92, 213

- SAP, 57, 194
- Saudi Arabia, 13
- Scaffolding, 177
- Scandinavia, 98
- Scientists, role of, 191
- Scientists and Engineers for Johnson–Humphrey, 203
- Score cards, 88
- Second Industrial Revolution, 92, 104
- Singapore, 77, 82
- Slovenia, 98, 110
- Societies, role of, 19
- Solar energy, 239
- Sony Corp., 54
- South Korea, 9, 14, 23, 36, 40, 42, 77, 91, 98, 110, 200
- Soviet Bloc nations, 43, 53, 98, 213
- Soviet planned economies, 63
- Soviet Union, 43, 64
- Spain, 110
- Sub-Saharan Africa, 14, 113, 215
- Sun Microsystems Corp., 56
- Supply chain, 134
- Sussman, Gerard Jay, 214

- Tabulators, 59
- Tactical IT trends, 241
- Taiwan, 41, 92, 98
- Tax incentives, 76
- Technical standards, 120
- Technological diffusion, 28
- Technological infrastructure, 78
- Technology, 7
- Telecommunications, 6, 11
- Texas, 18
- Thatcher, Margaret, 181
- Think tanks, 201
- Total factor productivity (TFP), 106
- Trinidad, 15
- Turkey, 110

- U.S. Federal Bureau of Investigation (FBI), 111
- U.S. Food and Drug Administration (FDA), 10, 58
- U.S. General Accountability Office, 145
- U.S. government agencies, 55
- Unidata Corp., 38
- United Arab Emirates, 110
- United Kingdom, 98; *see also* Great Britain
- United Nations (UN), 10, 73, 93
- United States, 15, 18, 20, 22, 30, 33, 35, 36, 44, 49, 52, 72, 77, 82, 98, 100, 104, 119, 194
- UNIVAC, 33, 202
- Universal product code (UPC), 49

Urbanization, 12
Uzbekistan, 112

Venezuela, 15, 43, 92
Video games, 3
Vietnam, 41
von Neumann, John, 201

Wal-Mart, 8, 55, 142
Watson, Thomas J., Jr., 202
Western Europe, 30, 76

Wiener, Norbert, 5
WiFi, 108
Wikipedia, 235
Wildlife Fund's Climate Savers
 program, 208
World Bank, 93, 215
World Economic Forum, 73
World Health Organization (WHO), 10
World Trade Organization (WTO), 10,
 58, 93, 199