Index

A Area, 260
A Average demand, 161–164, 166
C₀ Cost of unserved demand, 161, 197, 201, 207
Cₜ Cost of a hub, 321
Cₘ Cost per unit distance, 321
Cₘ Cost of resources, 161, 163–164, 197
Cᵥ Coefficient of variation, 217–218, 220
d Diameter, 320
D(t) Demand function, 194, 197–198, 203–204
η Packing density eta, 260
F Fixed optimum, 198–199
F Fixed time, 268
m Customers, number of, 216
µ Mean, 217–218, 220
N Network time, 268–269
n Nodes, number of, 268–269
p Processors, number of, 268–269
P Peak, 161
P Processing time, 268–269
Q Quantity of resources, 269
r Radius, 257–260
R(t) Resource function, 194, 197–198, 203–204
σ Standard Deviation, 217–218, 220
σ² Variance, 217–218, 220
s Dimension, 320
s Length of side, 326–327
T Time, 161, 163–164, 166, 168
U Utility Premium 161, 163–164, 166, 168

451 Group, The, 286
7-Eleven, 55, 86, 337

A Aarons, Celina, 305
Abandonment, 231, 294
Aberdeen Group, 230
Abilities, overestimation of, 189
Acceleration, 240–242
Access convenience, 230
Access management, 286
Access, content, 97
Access, ubiquitous, 283
Accountability, government, 349
Accounts receivable, 149
Acqua di Cristallo Tributo a Modigliano, 346
Action potential, 5
Actions, competitor, 84, 204
Actions, complaint, 127
ActiveState, 289
Actors, self-interested, 288
Adjustment granularity, 194
Advantage:
  competitive, 22, 52, 236, 246, 336, 348
  first-mover, 25, 38, 85
  market, 324
  price, 55
  strategic, 25, 54
  sustainable 49
Advertising, 2, 4, 72, 196,200
Advertising-supported business model, 330
Advisors, financial, 209
Africa, 246
Age:
  of Access, xvi, 6–7
  of Access 2.0, xvii
  of Capitalism, 7
Age (continued) of Discovery, 246
Information, xv of Speed, 230
Agents, 333
Aggregation business web, 40
Aggregation, data, 36
Agility, 67, 77, 83–84
Agora, 40, 96
Agreements, service-level, 69, 149, 211–213, 222–225, 281, 333
aiHIT, 166
Airbnb, 6
Airbus, 51
Airlines, 81
Akamai, 63, 262
Alcatel-Lucent, 8, 273
Alcohol, blood, 251
Alexa Internet, 122, 251
Toolbar, 110
Alexa.com, 110
Alexander, Keith, 5
Algorithms, 92, 121
advanced correlation, 296
complex, 304
equity portfolio optimization, 58
flight and crew scheduling, 25
intelligent routing, 58
neural network, 182
search, 209
software, 22
trading, 19
unique, 337
Alignment of demand, revenue, and resources, 72
Alliances, 40, 335
Allocation of capital, 92
Alter, Steven, 22
Alvarez, Vanessa, 343
Amazon, 6, 7, 35–36, 69, 231–232, 323, 337
Amazon Web Services, 91, 100, 110, 155, 334, 344, 349
Amazon.com, 26, 69, 110, 112, 211, 231, 288
page views, 112
Amdahl, 237
Amdahl, Gene, 236–239
Amdahl’s Law, 237–239
America, 246
America Online (AOL) 7, 329
American Airlines, 23, 44, 116, 119
American Idol, 117, 119
Amoroso, Ed, 153
AMR, 23
Analysis:
data, 154
seismic, 283
semantic, 3
statistical, 188
Analytics, 94
cloud-based, 37
data, 36, 44
Anderson, Chris, 31, 330
Android, 59, 63, 173, 300
Angry Birds, 11, 38, 330
Animoto, 207
Anomalies:
behavioral, 303
cultural, 286
macroeconomic, 340
routing, 255, 257
Ant, 2, 246
Antarctica, 69
Antitrust, 138
Anywhere, 42–43
App, 248
App servers, 174
App Store, Apple, 36, 91
Apple, 7, 32, 36, 53, 91, 99, 115, 171, 209, 300, 337
Apple II, 346
Apple.com page views, 115
Applebee’s, 116
Application, 2, 279:
business, 210
client-based, 279
cloud-centric, 284
coupling, 271
data-intensive, 171
delivery, 273
embarrassingly parallel, 239
global, 268
interactive, 174, 265, 342
interconnection, 220
internal, 206
legacy, 102
mobile, 84
Programming Interface (API), 75, 100, 344
rewrites, 308
SaaS, 277
Service Provider (ASP), 75
single instance, 174
streaming, 289
tuning, 266–267
usage profile, 82
server-based, 279
Application-dependent advantages, 281
Appreciation, 195
Apprentice, 116
Aqueducts, 1
Arab Social Media Report, 11
Arab Spring, 11, 97
Arbinet, 333
Architecture, 138
application, 167, 179
broadcast, 318
custom, 160
distributed, 237, 251
hybrid, 168, 172
information, 41
open cloud, 37
organization, 41
probabilistic evidence-based, 236
scale-out, 142
scale-up, 142
technical, 288
Ariely, Dan, xx, 304, 310, 313
Arm & Hammer, 34
Armor, knights, 2
Armstrong, J. Scott, 190
Army, 22
Arnsten, Amy, 308
Art of War, 153
Asch, Solomon, 309
Asia, 185
Assembly vs. fabrication, 287
Assurance, absolute, 221
Assyrians, 2
AstonMartin.com, 110
Astrology, 181
AT&T, 7, 116, 118
long distance network, 299
Network Systems, 298
Wireless Services, 329, 332
Attractor, stranger than strange, 183
Attributes, Kano model:
expected, 293
implicit 293–294
unexpected, 293
verbalized, 293
Attrition, 152–154
Auction:
Dutch, 330
English, 325, 330
online, 96
sealed-bid, 325
Vickrey, 330–331
Audit, 140
Australia, 96
Authorization, 97, 285
AutoComplete, 247
Automation, 340
Automotive:
industry, 119, 186
market, 341
Automotive News, 341
Autonomy, 87, 109, 307–308
Autoscaling, 306
AutoUpdate, 281
Availability, 49, 59–60, 79, 87, 284, 293–301
data, 294, 297
data center, 297
network, 299
networked resources, 296–297
resource, 300
service, 79, 294
Average, 161
Average Revenue per User (ARPU), 332
Avis, 142
Awareness, 4, 306
Axelrod, Robert, 282
Axiomatic definition of cloud, 65
Azure, Microsoft 91

B
Babcock, Charles, 173, 204
Baby, 236, 238
Babylonians, 2
Back end, 174, 179
Backblaze, 272
Backhoe attenuation, 300
BackRub, 24
Baidu.com, 110, 245
Balking, 126
Ball, s-dimensional, 320
Bandwidth, 177, 252
  advertised, 253
  infinite, 253
  on demand, 273
Barabási, Albert-László, 339
Barber, Brad, 200
Barings Bank, 182
Barista, 266
Barnes & Noble, 7
Barneys, 337
Basketball, 188
tickets, 310
Battle, 152
Bechara, Antoine, 188
Bechtel, 151
Beer Game, 186
Behavior, emergent, 348
Bell curve, 218
Bell, Alexander Graham, 317
Benefit convenience, 230
Benefit, statistical, 220
Benkler, Yochai 329
Berggruen, Nicolas, 341
Berns, Gregory, 303, 309
Berry, Leonard, 126–127
Better Never than Late principle, 199
Better Safe than Sorry principle, 131, 133, 163, 199–200
Bezos, Jeff, 232
Bias, cognitive 109, 185–187, 304–313
  anchoring, 307
  affect heuristic, 304
  assumption of uniqueness, 181
certainty, 187, 189
  choice-supportive, 310–311
  confirmation, 93, 187
control, illusory 109, 187, 308
discounting, hyperbolic, 212, 312
discounting, hyperbolic, 212, 312
  endowment effect, 310–311
  expectation, 109
flat-rate, 305–307
  framing, 307
gratification, instant, 312–313
herding, 309
hindsight, 109
loss aversion, 304–307, 331
risk aversion, 305
status quo, 310
  superiority, illusory, 189
  zero-price effect, 313
Bias, Randy, 37, 160
Bids, 324
Big Data xvii, 35, 43, 91, 93, 177, 283, 339
Big Switch, 30
Billing, 4
  increments, 66, 242
  usage-sensitive, 278
Biltmore Estate, 93
Bing, Microsoft 171
Bitcurrent, 43
BitTorrent, 92
Bizrate.com, 231
Black Friday, 111, 116, 184
Black swans, 104, 182, 186, 207
BlackBerry, 11
  messenger, 97
Bling H2O, 346
Blogspot, 110
Bloomberg Businessweek, 64
Blue Mountain Labs, 146
Blu-Ray Disc, 63, 97, 263
BMCC, 7
BMW, 84
Boeing, 51, 81, 142, 151
BookMooch.com, 6
Books, searching through, 237
Bordeaux wine, 195
Borders, 7, 26
Boston, 257
Boston Coach, 346
Boston College, 230
Boston Consulting Group, 34, 199
Bot or Botnet, 60, 153–154, 283
Botsman, Rachel, 6, 96
Bottle packing, 258
Boundaries, territorial, 271
Bounded rationality, 185
Boutiques, 335
Bowers, Bill, 98
Box.net, 63
Boxcars, 213
Box-Jenkins, 181
Boyd, John, 45
Brain, human, 236, 304, 309
Brain as lazy piece of meat, 303
Branch expansion, 262
Branch, bank, 270
Brand, 2, 4, 55, 335
Breakage, 270
Break-even, 290, 306, 326
Brewers, 186
Brin, Sergei, 24
Bring Your Own Device (BYOD), 3
British Telecom (BT), 7, 43
Broadcast coverage, 119
Brokerage, 25, 242, 247
Brokers, cloud service, 333
Brooks, Carl, 147
Brown, John Seely, 21, 23, 31
Brown, Robert, 204
Brownian motion, 204−205
Browser, 248, 267
  split, 233
Browsing, mobile web, 233
Brute force 103, 152
Brynjolfsson, Erik, 20, 23, 44, 83, 139−140
Budget, time, 228
Buffet, all-you-can-eat, 68
Bug, 298
  fixes, 278
Build to Peak, 163
Build-A-Bear Workshop, 41, 330
Bulbs, light, 34
Bullwhip effect, 120, 186
Bumblebees, 22
Bushehr nuclear complex, 5
Business:
  digital, 30
  intelligence, 37, 94
  IT-native, 88
  models, 140
  processes, 243
  profit-seeking, 331
Business Continuity / Disaster Recovery (BC/DR), 98, 103, 167, 179, 270−271, 294, 300
Business Process as a Service, 277
Business Web (b-Web), 39−40, 221
Butterfly effect, 185
Butterfly, 100-meter, 227
Buy vs. rent decision, 141
Buyers, 324
  concentrated, 341
Buying Power, 55

Buzz, Google, 335
Buzzell, Robert, 228

C
C.L.O.U.D. definition, 11, 65
CA Technologies, 7, 29
Cab ride, 129
Caching, 103, 247
Cadillac, 347
Caesar, 1
Cairo, 11
Calculation, complexity of, 304
Calculus, 131, 199
Calient, 347
California, 99
California Institute for Telecommunications and Information Technology, 43
California Institute of Technology (Caltech), 109, 182, 184
California Raisins, 330
Call center, 232
Cameras, mobile, 9
Campbell-Kelly, Martin, 95
Canada, 306
Canonical, 37
Capabilities, 77, 78, 91
Capacity, 79, 98, 130, 132, 198
  adjustment, 194
  aggregate, 213
  conservative provisioning, 201
  conundrum, 104, 122, 129, 134
  elastic, 129
  excess, 122, 133, 195−198
  fixed, 122, 128, 131
  human resources, 134
  inertia, 134
  insufficient, 122, 129, 133, 201
  limited, 126
  management, 112
  optimal, 133
  perfect, 70, 194, 197
  perishable, 81
  subway car, 129
  unsold, 82
  unused, 129
Cape of Good Hope, 246−247
Capital, 144
  expenditures, 49, 54, 98, 120, 143, 175, 289, 320
Capital (continued)
  investments, 140, 144, 186, 320
  nonproductive, 122
  weighted average cost of, 131
Capitalization, market, 18
Caps, spherical, 260–261
Card counters, 187
Cards, playing, 188
Career path, 288
Carilion Research Institute, 188
Carr, Nicholas (Nick), 21, 24–25, 30, 56, 139, 341
Carriers, telecommunications, 177, 242
Carroll, Dave, 127
Carroll, Lewis, 17, 75
Cascades, 298
Case Commons, 10
Casebook, 10
Cash, 141, 195
Cash Cow (business), 34
Cash flow, 54, 98, 204
Casino, 188
  losses, 186
Catalog, 4
  parts, 32
  service, 32
Catastrophe, business, 204
Caupona, 2
Causality, 19
Cautions, advised, 184
Cedexis, 249–250
Celerity, 100
Cell phones, 340
Cells, flexible manufacturing, 32
Cellular, 59
Center for Strategic and International Studies, 33, 152
Center for Technology, Innovation & Competition, 6
Centera, EMC, 94
Centers of Excellence, 74
Central Limit Theorem, 225
Central Park, 93
Centralization, 178, 273
Certainty, need for, 309
Certification, 149
  bodies, 332
Cessna, 142
C-government, 11
Chains, 186
Chakrapani, Chuck, 127
Chamberlin, Ted, 146
Champs-Elysees, 9
Change, fear of, 308–309
Chaos (Theory), 104, 120, 181–183, 339, 349
Chaos Monkey, 299
Chaos, financial, 181
Chaotic behavior, 185
Characteristic, mathematical, 209
Charges, fraudulent, 52
Charging and Billing, 331
Charity, 9
Château Latour, 333
Checkpoints, 99, 326
Chellappa, Ram, xvii
Chesbrough, Henry, 39–40
Chevrolet (Chevy), 347
Chicago, 150, 339
Chicago Edison, 210
Chicago Mercantile Exchange, 227
China, 40, 119
Chinese restaurants, 116
Chips, neurosynaptic, xvi
Choice, paradox of, 311
Chokepoints, 99
Christmas, 104, 116, 120, 211
Churn, customer, 18, 196
Chrysler, 33
Cianciutti, John, 299
Circle covering, 257, 259
Circle packing, 257
Circuit, Hamiltonian, 319
Cisco, 7, 273, 335, 339
Cities, 338
Citigroup, 153
Citrix, 7, 219
Clark, Joseph, 25
Classmates.com, 93
Clausewitz, Carl von, 152–153
Clearing, 95
Clearinghouse, 96
Clerks, walk, 95
Cleveland, 129
Click-throughs, 231, 236
Clinton, Hilary, 4
Close coupling, 102
Cloud, 1, 232
brokers-dealers, 334
community, 220–222
computing, 1
computing, meaning, 17
definition, 65–76
“electric”, 139, 142, 318
existential, 7
“labor” xviii, 135
“loan service”, 144
model, xvii
patterns, 317
personal, 97
private, 146, 219
“private car”, 142
public, 1, 101
resources, 273
services, 175
storage, 263
strategic 7
strategy, pure, 159
“telephony”, 318
“true”, 274
value, 77–89
Cloud Computing Initiative, 344
Cloud Computing Leaders, 150
Cloud Computing Showplace, 277
Cloudability, 306, 333
Cloud-based market, 325
Cloudbursting, 173, 347
Cloudonomics, xvii
Cloudonomics, behavioral, 187, 329
Cloudonomics, Laws of, xviii
Cloudonomics.com, xvii
Clouds, hybrid, 286
Cloudscaling, 37, 160, 345
CloudStack, 345
Club Med, 67
Clustering illusion, 109, 187
CNET, 348
CNN.com, 114–115
Coach, 86
Cochran-Weiss-Shanteau metric, 190
Cockcroft, Adrian, 151, 203
Code Search, 335
Coefficient of Variation, 215–220
Coffee, 9
Coffee shop, 139, 179, 265, 289
Coffee, Peter, 283, 287, 288, 290, 308
Cognition, 229
Cognitive biases, 212
Cohen, Reuven, 333
Coherence, 290
Coin toss, 182
Cold fusion, 140
Collaboration, 3–4, 10, 36, 39, 91, 94–95, 175, 221, 248, 318
Collections, 93–94
Collusion, 169
Colocation, 55, 57, 82, 147, 171, 178, 220, 245
Colorado River, 80
Columbia University, 312, 338
Columbus, Christopher, 246
Combinations of cloud use cases, 100
Command structure, 152
Commerce, 3, 95
Commercial jet, 88
Commitment, 134, 142, 144
escalation of, 310–311
Commodities, 9, 142
Commoditization, 345–346
Common, 11
Common infrastructure, 11, 65, 68, 72, 279
Commons, 93
Communications, 92
interprocess, 102
interprocessor, 238
patterns, 320
Communicators, 324
Communities, 10, 87, 93, 221, 285
development and test, 332
of interest, 118
Companies, conflicted, 331
Comparative advantage, 80
Compensation and bonuses, 311
Competencies, 77–78, 91–92, 100
domain-specific, 78
horizontal, 78
Competing in time, 243
Competition, 17
cloud use case, 94
perfect, 332
Complaints, 127
Complex Adaptive Systems theory, 182
Consolidation, 265, 267, 269, 298, 336
   benefits, 270
   challenge, 269
   data, 94
   industry, 85
   market, 137
   dispersion vs., 268
Constant of proportionality, 260
Consumer packaged goods, 289
Consumer Reports, 344
Consumer sentiment, 185
Consumers Union, 344
Consumption, 306
   collaborative, 4, 60, 87, 96
   content, 102
   delayed, 312
   excess, 331
Contact center, 58, 122
Containers, 138, 149
Content, 2
   capture, 102
   creation, 102
   delivery, 273
   delivery servers, 174
Contests, 3
Context:
   framing and, 307
   Core activities, vs., 80, 99
   Ushahidi and, 10
Continuity of Operations, 98
Continuum, space-time, 235
Control, 96–97, 181, 283, 306, 308
Control Objectives for Information and
   related Technology (COBIT), 286
Control:
   access, 147
   behavioral, 190
   cognitive, 190
   need for, 109, 307, 309
   perception of, 87
Convenience, 139, 229–230, 247
   effect, 305
Conventional Wisdom of cloud, 49–61
Convergence, 332
Convergent Value Distributions, 321
Conversations, 93, 248
Conversion, sales, 87, 230
Cooling, 137, 150
Cooperation, 282
Cooperatives, buyers’, 336
Co-opetition, 94
Coordinated Universal Time, 96
Coordination, 96, 97, 176
Core Competencies, 41
Core activities, vs. Context, 80, 99
Corman, Josh, 286
Corporation, virtual, 39
Corporations, networked, 39
Correlation:
  between confidence and accuracy, 190
  illusory, 109
  interyear, 182
  mathematical 209
Cortex:
  anterior cingulate, 187, 190
  motor, 190
  prefrontal, 187
  visual, 309
Corvette, 42
Cost Leadership, 37, 42
Cost:
  advantage, 140
  auditing, 82
  average production, 137
  bandwidth, 272
  broadcast network, 319
  capital, weighted average, 144
  cognitive, 303
  continuity, 271
  contracting, 143, 222
  data, maintaining, 262
  data transfer, 176, 286
  data transport, 82
  delivered, 80–82
  delivery network, 319
  differential, 176
  diminishing, 240
  emotional, 303
  excess resources, 195, 197, 199
  expected for a link, 321
  financial, 303
  floor space, 195
  goods sold, 142
  heating, ventilation, and air conditioning, 195
  hub and spoke network, 319, 321
  information, 82, 142, 149, 332
  installation, 195
  insufficient capacity, 195–196
  internal, 52
  inventory holding, 81, 127
  labor, 81, 146
  linear, 240
  linear penalty, 130
  management, 74
  marginal, 167–168, 175
  marginal, of continuity, 271
  marginal, of goods sold, 332
  marginal, of hardware, reliable, 299
  marginal, of software, reliable, 299
  marginal, of network, 282
  metering, 332
  migration, 82, 102, 149, 308
  network, 167, 179, 269, 272
  network access, 282
  network infrastructure, 82
  nonlinear penalty, 207
  nonlinearities, 51, 56
Operations, Administration, and Management (OA&M), 143
  operations, 81
  opportunity, 83, 195, 206, 308
  optimality, 171, 174
  outage, 271
  overhead, 82
  penalty, 133, 203, 218
  per megabyte transferred, 175
  physical, 303
  point-to-point network, 319, 321
  power, 147, 195
  processing, 272
  production, 81
  reduction, 42, 77, 341, 346, 348
  relative penalty, 219, 270
  relative, 161
  resources, 132, 206
  Sales, General and Administrative (SG&A), 143, 148
  scale-invariant, 51–52, 143
  search, 39, 142–143, 149, 325
  service management, 222
  storage, 269, 272
  structure, 56, 138, 337
  switching, 308, 332
  testing, 195
  total, 82, 138, 167
  training, 82
Cost (continued)
  transaction, 39, 82, 134, 142, 149, 222
  transportation, 145
  turn up, 195
  unit, 52, 80, 138, 142, 147, 151, 159, 340
  unserved demand, 199
  unused perishable capacity, 81
  Coulomb Potential, 261
  Coverage, 257
  Covert data, 103
  Cracking, 240, 242
  Craps, 212
  Crashes, 183
  Creative Bazaar, 40
  Creativity, 87
  Credentials, 2
  Credit cards, 210, 306
  Credit Default Swap, 119
  Credit Suisse, 102
  Credits, 149
  Creditworthiness, 195
  Criteria, cloud, 72
  Croll, Alistair, 43
  Cross-Device Access, 97
  Cross-subsidy, 330
  Crowdmap, 10
  Crowdsourcing, 94, 95, 181
  Cryptography, 102
  CSC, 37
  Csikszentmihalyi, Mikhail, 229
  CueCat, xviii
  Currency, 96
  Currency exchange, 307
  Custom, 101
  Customer account metadata, 176
  Customer:
    dissatisfied, 127
    engagement, 4
    experience, 69, 77, 86, 100, 122, 179, 262
    focus, 37–38
    loss, 196
    loyalty, 196
    relationships, 348
    satisfaction, 230
    satisfied, 127
    service, 335
    service representative, 86
    support, 196
    value proposition, 209
  Customer Intimacy strategy, 34–35, 86, 231, 338
  Customer Relationship Management (CRM), 279
  Customizability, 100
  Customization, 4, 73, 290
  Customs and Border Patrol, 99, 327
  Cyber Monday, 111–112, 222
  Cyberattack, 5, 153, 327
  Cyberdefense, 327
  Cybersecurity, 153
  Cycle:
    business, 119
    cross-temporal perception-action, 187
    macroeconomic, 222
    seasonal, 222
    time, 295

D
  Dahl, Gary, 346
  Daiwa Bank, 182
  Damasio, Antonio, 188
  Dandridge, Tennessee, 346
  Daniels, Russ, 348
  Dartmouth University, 189

Data:
  gravity, 52
  loss, zero, 178
  management, complexity, 176
  migration, asymmetric, 177
  migration, dynamic, 177
  mining, 339
  networking, 179
  partitioning, 176
  protection, 178
  static, 179
  transfer charges, 177
  transport, 172
  warehouse, 176

Data as a Service, 277
Data centers, 172, 203–204, 215, 232, 269
  containerized, 8, 338
  hyperscale, 53
  monolithic, 273
  solar-powered, 8
Data Center Pulse, 33, 348
Data Security Standard (DSS), 286
Database of record, 174
Database, relational, 285
Davison, Lang, 31
Dean, Jeff, 298
Death, celebrity, 211
Decision convenience, 230
Decision-makers, rational, 49, 56, 303
Decisions, suboptimal, 305
Decline, exponential, 204
De-duplication, 94, 169, 263
DeepQA, IBM, 236
Deferrable work, 101
Delay, 193
  constant resourcing, 202–203
Delivery, product and service, 4
Delivery model, 278
Dell, 7, 51, 335
Deloitte, 21
Demand:
  aggregate, 120, 204
  aggregation, 215, 217–218, 221–222, 225, 265
  assessment, 194
  baseline, 161
  chasing, 120, 128
  complementary, 210
  constant 101, 104
  correlated, 210, 220
  countercyclical, 210
  customer, 81
  cyclical, 200
  deferred, 126
  dilemma, 107–121
  discretionary, 121
  exogenous, 121
  flat, 197
  function, 194
  incenting, 121
  independent, 210, 279
  levels, 206
  negatively correlated, 210
  peak, 122
  queued, 206
  shaping, 101, 120–121, 128
  simultaneous peaks in, 210–212, 221–222
  smoothing, 224
  spiky, 115, 164, 284
  tranches, 165–166
  uncorrelated, 210–211
  uniformly distributed, 197
  variable, 120, 128, 171
Democratization of IT, 4, 38, 287, 288
Department of Motor Vehicles (DMV), 229
Deployment, 278, 288
Depreciation, 122, 131, 141, 144–145, 161, 175, 195
Depression, 308
Derivative, calculus, 199
Design, 4
  for Manufacturability, 32
  organization, 17
  server, 53
Desktops, remote virtual, 248, 252
Destruction, Creative, xvi, 7
Detection, 295
Development, in-house, 341
DevOps, 32
Diagnosis, 295
Diamond ring, 278
Diamond, Steve, 344
Dice, rolling, 212–213, 296–297
Difference, exponential, 203
Diffusion, technology, xx, 138, 337
Digital divide, 60
Digital One Rate, 329
Digital provide, 60
Digitalization, 23
Dillon, John, 10, 31, 287–288
Diminishing returns, 138
Disaster, smoking-hole, 79
Discontinuities, 84, 187
  business cycle, 120
  macroeconomic, 204
Discounted cash flows, 290
Discounts, 148
 Diseconomies of scale, 51–52, 138, 143
Disney, 116
Disneyworld, 307
Dispersion:
  benefits, 271
  consumption levels, 332
  dilemma, 265–274
  geographic, 69, 100–101, 139, 174, 178, 262–263, 266–273
  global, 12
  outcomes, 88
  price, 317, 325–326
Displacement, particle, 205
Efficiency positioning, 38
Efficiency, computational, 304
Ego positioning, 86
E-government, 10
Egyptians, 11
Einstein, Albert, 204–206, 235–237, 239
El Sawy, Omar, 25
Elasticity, 66, 151, 176, 178, 207, 219
Election Day, 115–116
Electricity, 21
   analogy with cloud, 49, 66
Electrocardiogram (EKG), 109
Electro-holography, xv, 248
Electronic Switching Systems, 298
Elephant Inn, 2
Elephants can dance, 278
Ell Lilly, 8
Ellis, Mat, 306–307
Ellison, Larry, 30
EMC, 7, 94, 178
Emergence, 288
Emory University, xvii, 303
Empires & Allies, Zynga, 207
Empowerment, 3, 4, 288
Encryption, 102, 175, 240, 242,
   homomorphic xv, 103, 175, 347
   quantum, 347
   random thermal, 347
Endpoint, 172, 232, 267
Energy, 49, 87
   consumption, 60
Energy Information Administration, 119
Engagement, 86–87, 152
Engine Yard, 10, 31, 287
Engineering, 4, 149
   social, 153
Engines, aircraft, 34
Enjoyment, bursts of, 187
Enomaly, 333
Enron, 19
enStratus, 348
Entanglement, quantum, xvi, 249, 347
Enterprise 2.0, 75
Enterprise Cloud Leadership
   Council, 336
Enterprise License Agreement (ELA),
   67, 281
Enterprise sales forces, 341
Entertainment, 231
Entropy Economics, 339
Environmental status, 64
Environments, transactional, 178
EnviroSell, 228
Epinions.com, 344
Equations, differential, 153
Equator, 262
Equilibrium states, 339
Equipment:
   computing, 147
   power and cooling, 147
   supporting, 147
Erie Canal, 339
Errors, systematic, 312
Estimates, human, 184
Estonia, 5
Ethics, 212
Eucalyptus, 344–345
European Organization for Nuclear
   Research (CERN), 339
Events, independent, 297–298
Everyware, 42–43
Evolution of Cooperation, 282
Evolution, ecosystem, 218, 246
Exaflood, 339
Exceptionalism, 181
Exchange, telephone, 318
Exchanges, nonmonetary, 330
Exhaust Data, 44
Exogenous factors, 185
Exogenous risk, 134
Expected value, 131
   of maximum, 325
Expenditures, discretionary, 196
Expense reporting, 99
Expenses, capitalizing, 55
Experience, customer and user, 86
Experience curve, 78
Experience Economy, 9, 289
Experience, shopping, 228
Experiences:
   personalized and co-created, 41
   physical, 128
   vs. products and commodities, 9,
   289, 345
Experimentation, 287
Expertise, 78, 148
Experts, 190
Express mail, 177
F
F5, 159
Facebook, 6, 7, 11, 23–24, 29, 38, 42, 63, 91, 97, 109–110, 148, 150, 207, 337–338
Facemash, 24
Factories, information, 32, 137
Factorization, prime, 242
Factors, psychological and neuroeconomic, 309
Factors, qualitative and quantitative, 329
Failover, 298
Fail-safe, 298
Fallacy, horseless carriage, 30
Fan-out, 319, 322
Farm, 9
Fashion business, 346
Fast failure, 31, 287
Fast fashion, 23, 31
Father’s Day, 116
Fault injection, 299
Fear, 308
Federal Aviation Administration, 99
Federal Bureau of Investigation (FBI), 327
Federal Communications Commission, 252–253
Federal Information Security Management Act (FISMA), 287
Federal Reserve, 183
Federal Reserve Board, 20
Federations, 335
FedEx, 88
Fee, lifetime, 278
Feedback Economy, 43
Feedback loops, autonomic, 72
Fekete, Alan, 207
Ferdinand, Archduke Franz, 185
Fight or flight response, 310
Filers, tax, 211
Filtering, spam, 154
Financials, 172
Financials, quarterly, 280
Financing, 175
options, 149
vendor, 144
Fine, Charles, 185
Finkelstein, Sydney, 189
Finland, 6
Finnie, Matthew, 273
Firewall, premises-based, 154
Fishermen, 8
Fitness, evolutionary, 348
Fixed capacity, 135
Fixed time, 268
Flash, 86
Flat rates, 331
Flattening world, 349
Fleet sales, 341
Flickr, 31
Flood, 100-year, 212
Floods, Internet, 116
Florida, 118
Florists, 211
Flow, 229
Fluctuations, random, 200
Foldit, 3
Footprint, 335
Force, physical, 236
Forces, disruptive, 185
Ford Motor Company, 38, 44, 119, 334
Ford, Henry, 53
Forecast accuracy, 184
error, 193
fallibility, 181–190
Forecasters, 189
Forecasting, 181, 185, 190, 193, 194, 207
Forensics, court-admissible, 286
Form Follows Function, 41
Formula 1, 252
Forrest, Will, 146, 160, 338
Forrester Research, 97, 343
Forrester, Jay, 200
Foundation, extensible, 288
Foundations of mathematics, 65
Four E’s model, 86
Four Seasons, 346
Foursquare, 7, 42
Foxconn, 32, 39
Fragmentation, industry, 338
Frame rate, 263
Fraud reduction, 196
Free search, 330
Free vs. profitable, 329
Freeconomics, 330
Freemium, 330
Frequency, relative, 212
Friction, 134, 270
Frictionless Intimacy, 36
Frictionlessness, 144
Index

Front end, 174, 179
Fruit seller, 225
Fuel cells, 140
Fukushima, 114
Function, cognitive 308
    continuous, 215
    pathological, 216
    prefrontal, 308
    smooth, 216
Functional Magnetic Resonance Imaging, 304, 309
Functionality, software, 278, 288
Fundamentalist traders, 183
Fung, Victor, 40
Fung, William, 40
Funnel Management, 99
Furniture store, 277

G
Gage, John, 273
Galbraith, John Kenneth, 181
Gale, Bradley, 228
Galvanic Skin Response, 304
Game, 173, 318
    casino, 307
    cloud, 3
    immersive, 9
    online, 121
    multiplayer, 94, 248
    social, 3
    video, 252
Game of seconds, 266
Game theory, 185, 282
GameDay, 299
Ganglia, basal, 190
Gartner xvi, 30, 146
General Electric (GE), 33–34
General Equilibrium Theory, 182
General Foods, 21
General Motors (GM), 36, 41–42, 347
General Purpose Technology, 59, 340
Generally Accepted Accounting Principles (GAAP), 149, 344
Generators, 140–141
Generic Framing Procedure (GFP), 177
Genius, 184
Genomics, 283
Geodiversity, 169
Geography, accident of, 93
Gift card, 313
GigaOM.com, xvii, 299, 348
Gigapixel, 263
Gilbert, Daniel, 189, 312
Gilder, George, 32, 137
Gill, Vijay, 147
Gillet, Frank, 97
Gilmore, James, 9, 289, 345
Global Brain, 40
Global Network Operations Center, AT&T, 118
Global Positioning System (GPS), 172
Globalization, 38
Gmail, 63
Goethe University of Frankfurt, 305
GoGrid, 91, 284
Goldcorp, 23–24, 37, 95
Challenge, 24
Golden, Bernard, 168
Golf balls, 261
Gomez, 115
Goods, Giffen, 58
Goods, Veblen, 58
Google, 6–7, 147, 245, 262, 298–300, 331, 335, 337
    Apps, 69, 91
    Books, 93, 285, 326, 330
    as a cloud service, 63, 69
    convenience and, 86,
    dance, 185
    GoTo.com and, 53,
    IT-native business, 88,
    IT strategy, 23–26, 29, 42
    Maps, 231
    page design, 231, 251
    Search, 91, 171, 236–240, 269
    stock 209
Google.com page views, 109–111, 162
GoTo.com, 53
GoToMeeting, 63
Governance, corporate, 19
Government, 4
Granofsky, Rena, 86
Granularity, 66, 195
Graphics calculation, 240
Gratification, instant vs. deferred, 312
Gravitation, 185
Gray, Elisha, 317
Great Lakes, 339
Greeks, 2
Green and sustainability, 87
Green, Emily Nagle, 43
Greenfield, Adam, 43
Greenwood, Jeremy, 19
Gregory/Ricochet, 164
Grid computing, 74
Grid, electric, 273
Group Technology, 32
Groupon, 6
Groupon.com page views, 113
Growth, exponential, 202
Growth, linear, 201–202
Growth-Share Matrix, 34
Guaranteed availability of resources, 222
Guarantees, contractual, 282
Gucci, 99
Guesses, educated, 184
Gulf of Aden, 246

H
H&R Block, 112
Haas School of Business, 39
Hadoop, 240
Hagel, John, III, 21, 23, 31
Haiku, 288
Hairpinning, 320
Halloween, 221
Hamanaka, Yasuo, 182
Hamel, Gary, 41
Handshake, uneven, 160
Happiness, 312
Hardware, open source, 56, 150
Harford, Tim, 255
Harrah’s, 23–24
Harvard Business Review, 21, 30, 200
Harvard Business School, 21, 33, 228
Harvard Law School, 329
Harvard University, 109, 184, 189
Hazard, moral, 331
Health Insurance Portability and
Accountability Act (HIPAA), 286
Healthcare, 221
Hedge, 334
Hedonic price index, 272
Helplessness, 307–308
Herding, 309
Herfindahl-Hirschman (HH) Index, 337
Hertz, 142
Heuristics, 304
Hierarchies, 321
High-frequency trading, 139
Hilton, Steve, 102
Hitt, Lorin, 20, 23
Hitwise, 116
HIV, 3
HMG Strategy, 29
Hockey puck analogy, 257
Holiday Inn, 346–347
Holzle, Urs, 299
Home Depot, 142, 277
Hon Hai Precision Industries (see Foxconn)
Honeybees, 246
Hoover Dam, 80, 141
Hosting, 57, 82, 178
Hot hand, 188
Hotel, 12, 57, 68
industry concentration, 337
reservations, 196
room vs. ballroom, 279
Hotmail, Microsoft, 63, 69
House bidding, 324
Housekeeping, data management, 237
Hout, Thomas, 199–200
HP, xv, 7, 174, 290, 298, 335, 347, 348
HP Utility Ready Computing, 290
HRBlock.com, 78
page views, 113
HTML 5, 86, 171
Hub-and-Spoke, 92
Hudson River, 339
Huffington Post, 251
Human error, 298
Human Neuroimaging Laboratory, 188
Humpty Dumpty, 75
Hybrid cloud, 57, 159, 160, 164, 168,
171–180
dynamic, 177
front-end / back-end, 179
monolithic with data synchronization, 177
monolithic with data synchronization, 179
monolithic with dynamic data migration,
177
monolithic with remote data access, 176
partitioned-data, 175
revenue implications, 342
Hybrid hosting, 82, 167, 175
Hype Cycle, Gartner, 30
Hypercompetition, 242
Hyperspace, 249
Hyperstratus, 168
Hyper-V, 219
Hypothesis, Red Queen, 17, 21, 25
Hyundai, 44

I
Ibermatica, 7
IBM xvi, 7, 236–237, 330
IBM PC, 346
Iceberg of ignorance, 127
iCloud, 63, 115
IDC, 168
IdeaConnection.com, 95
IdeaGora, 96
Identity, 286
Iguchi, Toshihide, 182
Image analysis, 102
Image scaling, dynamic, 232
Incentives, 101
Incident monitoring, 148
Income, household, 119, 230
Indexes, hedonic price, 20
India, 8, 11, 255
Inditex, 23, 39, 184
Indonesia, 255
Industrial era, 139
Industries, high IT, 83
Industry concentration, 337
Industry-standard servers, 150
Infinera, 347
Infinity, 201
Information, and markets, 92
Information, relevant, 231
Informationalization, 23, 36, 85,
340, 348
InformationWeek, 83, 173, 204
Infrastructure, 160, 332
dispersed, 247
physical, 204
Infrastructure as a Service (IaaS), 100, 146,
277, 279
Inn, Roman, 2
InnoCentive, 95
Innovation
by-product, 286
cost reduction and, 341
network-centric, 40
Open, 39
operational 161
product, 36–37
PaaS and, 287–288, 290
stability vs., 139
strategy and, 3, 31, 38, 53
INSEAD business school, 310
Inseparability, 128
Instagram, 38, 93
Installation, 4, 278
Installation, enterprise software, 280
Instances, reserved, 55, 334
Institute of Electrical and Electronics
Engineers (IEEE), 344
Instruments, financial, 333
Insull, Samuel, 210
Insurance effect, 305
Intangible, 128
Integration as a Service, 277
Integration, resources, 273
Integration, vertical, 150
Intel xvi, 59, 347
Intelligence, 61
Intelligence, collective, 102
Intensity, competitive, 18
Intensive care, 190
Interaction, 175
Interactions, predictive, 252
Interated Prisoners’ Dilemma, 282
Intercloud, 41, 74, 172, 334
Interconnect, virtual, 175
Interconnection, carrier-neutral,
55, 228
InterContinental Hotels, 347
Interface,
brain-computer xv
natural language xv, 3
proprietary, 285
user, 86
Intermediaries, 324, 332–334
Internal Revenue Service, 187
International Financial Reporting Standards
(IFRS), 344
International Institute for Management
Development, 309, 346
International Monetary Fund, 181
International Strategy for Cyberspace, 5
International Telecommunications Union (ITU), 336
Broadband Commission, 6
Internet, 41, 74, 75, 96, 119, 209, 283, 288, 329
quantum, 347
Interoperability, 3, 97, 140
testing, 149
Interoute, 273
Interval, process, 206
Intracloud, 172
Intractability, computational, 257, 326
Intrinsic limits of consumption, 321
Intrusion detection, 148
Intrusion prevention, 2
Inventory, 127, 186
Inverse square root law, for coverage, 258, 260, 262
Inverse square root law, for multiplexing, 209
Investment, 19, 281
capital, 55
Investors, 188
active, 200
IOS, 300
Iowa Gambling Task, 188–189
iPad, 36, 97, 173
iPhone, 36, 59, 115, 300
iPod, 229
Iran, 5
Irrational fear, 189
Irrationality, predictable, xx, 304
Irrelevancy, suckers for, 229
Islam, Sadeka, 207
Isolation, social, 309
Isosurfaces, baryon density, 261
IT:
budget, 240
capital expenditures, 18, 19
commodity, 22, 25
consumerization, 3
democratization, 3, 31
as enabler, 140
expenditure, 196
industrialization, 32
investment in, 18
operations, 32
organization, 308
perimeter, 286
resources, 342
spend, 58
strategy, 17–26
IT Doesn’t Matter hypothesis, 21–23, 30
IT Governance Institute, 286
iTunes, 7, 36, 63, 91, 229
Ivy League, 182
Iyengar, Sheena, 312
J
J.C. Williams Group, 86
Jackson, Janet, 116
Jackson, Michael, 104
Jaiku, Google, 335
Jam Central, 40
Jam varieties, 312
Japan, 8, 9, 11, 96
Japanese, 31
Java, 255
Jennings, Ken, 236
Jeopardy!, 236
Jevons’ Paradox, 58, 340
Jevons, Stanley, 58
Job evaluation criteria, 311
Jobs, Steve, 115
Johannesburg, 255
Johnson, Dave, 118
Johnston, Sam, 299
Jovanovic, Boyan, 19
Judgment, executive, 184
Julius, 330
Jumbo jet, 152
industry, 341
Juniper, 7, 154
Jupiter, 185
Just in Time, 32
K
Kagan, Marty, 249
Kaggle, 94
Kahneman, Daniel, 182, 304
Kaizen, 31, 33
Kano model, 293
Kano, Noriaki, 293
Kansas State University, 190
Kaplan, Jeffrey, 277
Kardashian, Kim, 92
Kay, John, 181
Keagy, John, 284
Kellogg School of Management, 40
Kentucky Fried Chicken, 116
Kenya, 8, 9, 11, 94
Kepes, Ben, 164
Kepner-Tregoe, 34
Kerala, 8, 92
Kerviel, Jérôme, 182
Keynes, John Maynard, 181
Keynote Systems, 115
Keystroke, 248
Kickstarter, 96
Kidnapping, 187
Kindle, Amazon, 63
Fire, 232
Kinect, Microsoft, 252
Kiva, 96
Knowledge, 148
Koomey, Jonathan, 60
Korea, 40
Kraft Foods, 21, 289
KVM, 219

L
Labor productivity, 231–232
Labor, management and administration, 148
Läderach Swiss chocolate, 293
Lady Gaga, 92
Lamborghini, 44, 58
Lambrecht, Anja, 305
Lanchester, Frederick, 152–153
Lanchester’s Linear Law, 153
Lanchester’s Square Law, 153
Lapinski, Jens, 166
Large Hadron Collider (LHC), 339
Las Vegas, 120, 212
Last mile, 177
Latency:
  application coupling and, 102
  business value and, 56, 228
  dispersion and, 259–263, 269
  distance and, 320
  ecosystem evolution and, 338–342
  importance of, 245–253
  location and, 139, 255–264
  network architecture and, 92
  reduction, 267
  SaaS and, 284
  transport, 267
  web pages and, 232
  worst-case, 262
Lausanne, 346
Laws, compliance, 271
Lazy, Hazy, Crazy characterization, 303–313
Leadership, 189
Leading Edge Forum, 37, 345
Learning Curve, 78, 148
Leases and leasing, 144, 175, 195
Lee, Kevin, 207
Leeon, Nick, 182
Legacy systems, 174
Leger Marketing, 127
Lehman Brothers, 119, 181, 183
Lehrer, Jonah, 187–188
Leinwand, Allan, 151
Leong, Lydia, 146
Lepper, Mark, 312
Li & Fung Trading, 40
Liability, limitations of, 2
Library of Congress, 91, 93, 285, 326
Library, public, 237, 240
License, one-minute term, 280
License, perpetual, 278
Licensing, traditional, 281
Life expectancy, 230
LifeLog, 262
Lifestyle, blended work-family, 3
Lifetime value, customer, 196
lightRadio, 8
Lincoln Tunnel, 250
Linden, Greg, 231
Link Capacity Adjustment System (LCAS), 177
Links, expected number of, 322
Linthicum, David, 146
Linux, 146, 330
Liu, Anna, 207
Load balancing, 175
Local Burst, HP, 174, 290
Location, 139, 272
  diversity, 294
  independence, 11, 65, 69, 72, 245, 279
Location, Location, Location, 255–263
Lock in, 160, 285–286
Locking, distributed, 178
Logistics centers, 255
London, 11, 95, 255
riots, 97
taxicabs, 129
London Banker’s Clearing House, 95
London Business School, 181, 305
Long Tail, 31, 288
Long Term Capital Management (LTCM), 181–182
Lopez Research, 42
Lopez, Maribel, 42
Loss, delay, 206
Louhibos, Tom, 154
Louvre, 93
Lovenberg, Gary, 24
Loyalty, customer, 86
Luftwaffe, 152
Luther, Martin, 5
Luttew, Edward, 33, 152
M
Mac, Apple, 300
Mac Vittie, Lori, 159
Machine tools, 120
MacKie-Mason, Jeffrey, 330
Macroeconomic, 83
Maersk Alabama, 246
Mahwah, 245
Mainframe, 172
Maintenance, 4
Malicious code, 154
Malik, Om, 273, 299
Malware, 60, 153
Managed Services, 144, 175
Management, remote, 278
Mandarin Oriental, 346
Maneuver, relational, 152–154
Manufacturer buyback, 141
Manufacturing, 127
MapReduce, 240
Margin of safety, 134
Margin, expansion, 85
Marginal value, 324
Margins, 67, 84, 85, 149
Mariposa, 153
Markets, 96, 285, 318, 333
development funds, 148
growth, 340
liquid, 55, 145
makers, 333
pattern, 317, 323
postpurchase redistribution, 87, 91, 96
prediction, 95
share, 18, 224
Markets Served strategy, 34
Marriott Marquis, 347
Marshall School of Business, 25, 30
Mason-Pfizer monkey virus retroviral protease, 3
Massachusetts Institute of Technology (MIT), 5, 20, 44, 83, 139, 185–186, 310, 313
Match, perfect, 317
Match.com, 323
Matching, 96
Maui, 31
Mayer, Marissa, 231
Mazar, Nina, 313
McAfee, Andrew, 83
McDonald’s, 53, 260, 262
McEwen, Rob, 24
McFarlan, F. Warren, 21
McKinsey Quarterly, 84
Mean, 215–218
Mean Absolute Deviation (MAD), 200–201
Measured service, 65
Media, social, 4–5
Mediterranean, 246
Megabit per second, 252–253
Memcached, 101
Memory, 190
Memristor, xv, 347
Meriwether, John, 182
Merry Maids, 287
Merton, Robert, 182
Metcalfe’s Law, 321
Metering, usage, 72
MF Global, 181
MGM Grand Hotel & Casino, 224
Miami, City of, 10
Michelin, 22
Michelson, Albert, 26
Mickey Mouse, 330
Mickos, Marten, 344
Microblogging, 288
Micro-electromechanical Adaptive Photonic Switching, 347
Microprocessors, 59
Microsecond, million-dollar, 227–233
Microseconds, 245
Microsoft, 7, 63, 69, 150, 209, 219, 245, 252, 278, 336–337
Middle Ages, 2
Milliseconds, 128, 233, 247
Minimum, 199
Minimum size, 152
Minkowski, Herman, 235
Mirror world, 248
Mirroring, 178
data, 179
  keystrokes, 69
  synchronous, 178, 271
Missoni, 184
Missoni for Target, 184
Mitchell, James, 334
Mithas, Sunil, 196
Mitigation, 271
Mitigation, surgical, 154
MITx, 5
Miyakonojo, 9
Miyazaki Prefecture, 9
Mlodinow, Leonard, 109, 182, 184
Mobile Virtual Network Operator (MVNO), 39
Model, cloud as business, 50, 73
Models, stochastic, 304
Modification Station, 40
Mohan, Craig, 227
Molds, slime, 246
Mom Invented, 4
Moments of truth, 4
Monetization, 247
two-sided, 122
Money value of time, 193–207
Money, concept of, 96
Monitoring, 295
Monopoly, 18
Monozukuri, 33
Monster.com, 324
Montague, Read, 188
Moore, Geoffrey, 80, 99
Moore’s Law (Gordon), 20, 59, 85, 145, 272
Moorman, Lew, 160, 344
More is Less, 159–169
Morley, Edward, 26
Morningstar, 344
Mortality, 204
Mortgage, subprime, 119, 181
Motel 6, 346
Motherboard designs, 150
Mother’s Day, 113, 116, 211
Motivation, 3
Motorola, 59, 98
Mouse move, 248
Movies, 56
digital animated, 240
Muller, Hunter, 29
Multiplexing:
space-division, 68
statistical, 55, 70, 211, 217–222, 269, 279, 317
time-division, 68
Multitasking, 229
Multitenancy, 278–279, 284, 288
Musee’ D’Orsay, 93
Mutations, random, 348
Myelin sheathing, 251
Myspace.com, 113
Myspace.com page views, 114
MySQL, 344

N
Nadler, David, 39
Nambisan, Satish, 40
Nanobot, 274
Nanoseconds, 245
Narrative, traditional cloud economics, 49
Nass, Clifford, 229
National Aeronautics and Space Administration (NASA), 21, 53, 335
National Institute of Standards and Technology (NIST), 65
National Terascale Facility, 74
Naturally Speaking, Dragon, 171
Neglect of probabilities, 212
Neiman Marcus, 34, 337
Nelson, David, 151
Nervous system, human, 248, 251–252
Net neutrality, 1
NetApp, 7
Netflix, 35–38, 63, 69, 84, 95, 97, 100, 151, 173, 203–204, 299, 335
Netflix Prize, 95
Netflix streaming, 154
NetMeeting, 63
Network:
- 3G, 3
- 4G, 8
- access, 65
- aristocratic, 321
- availability, 297
- broadband, 8
- capacity planning and design, 121
- congestion, 320
- connections, 121
- content delivery, 4, 12
- costs, 167
- data, 176
- distributive, 40
- edge, 251
- fabric, 273
- fixed-cost, 177
- global, 93
- hierarchical, 319–322
- hub and spoke, 317–318, 324
- infrastructure, 167
- intelligent, 273
- latency, 267
- metro rings, 347
- multiprotocol, 1
- outages, 187, 279
- point to point, 317
- prices, 176
- public, 1
- resources, 172, 271
- robust, 72
- round trips, 232
- route optimization, 228
- routed, 255
- satellite, 250
- services, 148, 167
- settlement, 96
- small world, 321
- social, 4, 60, 318
- topology, 323
- transport, 148, 272
- virtual, 203, 221
- wide-area acceleration, 103, 267
- wireless, 250
- wireline, 250
- Network effects, 38, 52, 85
- Network is the computer, 272–273
- Network is the platform, 273
- Network Economy, 40
- Neurocomputation, 305
- Neuroeconomics, 56, 303–304
- NeuroLeadership Institute, 311
- Neuron, 187
- Neuroscientists, 189
- Neurosurgery, 78
- Neurotransmitter, 187
- Neutrinos, faster than light, xvi, 347
- Nevada, 33
- New Haven, 318
- New Year's Eve, 116, 117, 161
- New York, 95, 117–118, 339, 347
- Public Library, 91
- New York Stock Exchange, 91, 227, 245, 249, 255, 283, 347
- Capital Markets Community Platform, 245
- New York Times, 4, 97, 116
- New York University (NYU), 19, 29
- New Zealand, 164
- Newark, 249
- Newline Products, 98
- News sites, 119
- Newspapers, 7
- Newton, Isaac, 38
- Nike, 36
- Nike+, 36
- Nintendo, 252
- Nobel prize, economics, 19, 182, 304, 325
- Nodes, leaf, 322
- Nolan, Richard, 21
- Nonlinearities, 141, 176, 320, 327
- NonStop, Tandem, 298
- NOOK, 8, 63
- Nordstrom, 86, 337
- North American Aerospace Defense Command (NORAD), 99, 327
- North American Industry Classification System (NAICS), 337
- North Atlantic, 246
- North Pole, 262
- Northeastern University, 339
- Northwestern University, 40
- Not only Structured Query Language (NoSQL), 285
- Nouveau Système de Cotation, 227
- Nuclear reactor construction industry, 341
- Nursery, 236, 238
- Nursing home, 109
- NYtimes.com, 116
Index

O
Obama, Barack, 10, 92, 104, 115
Objectives and constraints, 151
Objects, 232
Obligation, financial, 71
Observe, Orient, Decide, Act (OODA), 43
Occupancy rate, 224
Odean, Terrance, 200
Odlyzko, Andrew, 331
Office, Microsoft 336
O’Flaherty, Brendan, 338
Oil, price of, 119
Oklahoma City, 118
Oliner, Stephen, 20
Olmsted, Frederick Law, 93
Olympics, 161
Beijing, 104, 227
On Demand resources, 11–12, 50, 65–67, 71–72
for as a service, 279
for BC/DR, 179
vs. constant demand, 101
vs. delays, 193, 197, 206, 207
vs. forecasting, 182
Onboarding, 280
Online accessibility, 11, 65, 70, 72
Online environments, 128
OnStar, 23, 41, 42
Open Cloud Initiative, 299
Open Compute, 53, 150
Open Course Ware, 5
Open source database, 344
OpenFlow, 348
OpenStack, 53, 335, 345
OpenTable.com, 96
Operating Expenses, 49, 54, 98, 143
Operational capabilities, 355
Operational efficiencies, 160
Operational Excellence strategy, 34, 37, 231
Operations, 283, 288
Operations Research, 152
Operator services, 318
Opportunities, market, 84
Opscode, 299
Optical Fiber, 249
Optical Transport Network (OTN), 177
Optimist traders, 183
Optimization, 168, 267, 348
route, 87
Opto-electronics, 228
Oracle, 7, 30, 63
Orchestra, 40
Order processing, 4, 72
Organization:
design, 39, 140
trust, 39
entrepreneurial, 39
hierarchical, 39
Hollywood model, 40–41
network, 39, 41
networked, 38, 39, 41
Organizations, Nongovernmental (NGOs), 4
Orientation, cultural, 279
Orlando, 257
Ortega, Amancio, 23
Osama Bin Laden, 114
Oscar, 229
Oscillations, 200
Osswald, Deb, 168
Oswald, 330
Outages, 103, 187, 284, 295
Outcomes 130, 213
Outliers, 213
Outsourcing, 57, 73
Overbooking, 81
Over-budget, 84
Overcapacity, 132–133, 198
Overcorrection, 199
Overestimation effect, 305
Overhead, 149
Own the base, rent the spikes, 166
Ownership xvi, 96, 161
P
PaaS, Private, 289
Pacemaker, wireless, 41
Packard, Norman, 183
Packet Clearing House, 154
Packing:
density, 260
close, 258
hexagonal, 258–259
square, 258
Page objects, 232
Page views, 110, 230
Page, Larry, 24, 335
PageRank, 24, 185
Painter’s palette, 348
Pakistan, 40
Palm Springs, 121
Pandora, 35–36
Paper, commercial, 144
Parallel universe, 235–243
Parallelism, 265–266
Parallelization, 238, 240, 245, 262, 267, 269
Parallel analysis by analysis, 311
Parasuraman, A., 126–127
Parker, Robert, 344
Particle collider, 283
Partnerships, 30
Patents, 148
Path, shortest, 245
Patient monitoring, 64
Pattern, 188
  cloud, 317–327
  detection, 187
  matching, 3
  stationary, 183
Pay per use, 50–52, 70–71, 159–169
  for as a service, 278–279
  vs. constant demand, 101
  in Economics of parallelism, 237
  vs. economies of scale, 138, 142, 144
  in hybrids, 171, 179
  vs. other pricing, 331
Pay what you like, 330
Payback analysis, 98
Payment Card Industry (PCI), 286
Payment, actuals vs. forecasts, 280
Payment, online, 4
Payments, 149
Payments, financial, 96
PC, IBM, 300
Peak, Demand 161
Peak of Inflated Expectations, 30
Peak of the sum, 222
Peak-to-Average Ratio, 161, 164
Peanut Butter Sandwich principle, 287
Peer production, 330
Peer-to-peer, 74
Penalties, 163, 197–199, 201, 206
  compliance, 78
  excess capacity, 130
  function, asymmetric, 132, 197
  function, symmetric, 131, 133
  insufficient capacity, 130
  nonlinear, 134
  probability-adjusted, 130
  variable, 206–207
Penetration, market, 87
People, 134
Perceptions, false, 309
Pereira, Francis, 25, 30
Performance, 177, 190, 231–232, 289,
  293–294
  application, 178
  optimization, 160
  peak, 209–225
  service, 127
  stable, 285
Perimeter, 326
Perishability, of services, 128
Perishability, of strategy, 25
Permutations, 213
Perrier, 347
Persians, 2
Personalization, 231
Perth, 255
Pessimist traders, 183
Pet rock, 346
Petabytes, 339
Petaphiles, 137
Pfizer, 8
pg.com, 262
Phelps, Michael, 227
Phenomena, statistical, 212
Pheromones, 246
Philips Electronics, 34
Phillips, Captain Richard, 246
Phishing, 153
Phones, mobile, 42
Photoelectric effect, 204
Photonic Integrated Circuits, 347
Physical plant, 147
Physics, 185
  Newtonian, 185
  relativistic, 235
Pine, B. Joseph, 9, 289, 345
Pirates, Somali, 246
Places of exit, pollen, 260–261
Plagued with uncertainty, 181
Plain Old Telephone Service (POTS),
  64, 322
Planetary scale, 261
PlanetLab, 74
Plasticity, behavioral, 2
Platform as a Service, 31, 88, 100, 277–290
Platform, open, 288
Platform, standardized, 38
Platforms, 332
Player, portable digital music, 53
PlayStation, Sony, 153
Poepsel, Matt, 115
Point-to-Point, 92
Policies, 273
Policing, 99
Policyholder dividends, 307
Pollen grains, 260
Pompeii, 2
Poole, resources, 68
Porter, Michael, 33, 34, 346
Portfolio optimization, 283
Portfolio, diversified, 211
Portion, parallel, 239
Portion, serial, 239
Poscente, Vince, 230
Positioning, 4, 25
Postbenefit convenience, 230
Potts, Chris, 144
Poundstone, William, 306
Power:
computational, 279
hydroelectric, 56
plants, nuclear, 141
transmission and distribution, 56
POWER7, IBM, 236
PowerPoint, 94, 278
Praetor, 2
Prahalad, C. K., 41
Prechter, Robert, 309
Predictability, 82
Prediction, 187–188, 193
Prediction Company, The 182
Prediction markets, 181
Preferences, customer, 84, 204
Preferential attachment, 52, 339
Preindexing, 238
Preloading, 247
Premium, medical insurance, 71
Premium, utility, 161, 164, 166, 171
Prepayment discount, 334
Price:
advantages, 145
competition, 345
delivered 52
discrimination, 331
elasticity of demand 128, 340
vs. Pricing, 329
wars, 169
Price Waterhouse, 184
PricewaterhouseCoopers (PwC), 85
Pricing:
pay for quality, 330
block tariffs, 330
congestion, 330
differential, 331
dynamic, 83, 128, 169, 196, 224
flat-rate, 67
free, 329
freemium, 67
lifetime, 67, 330
multipart tariffs, 330
nonlinear, 67, 330
nonuniform, 330–331
Paris Metro, 331
pay for priority, 330
pay-per-use, 67
pay-what-you-like, 329–330
Shapley, 330
spot, 330
tiered, 330
unlimited, 67
usage-sensitive, 67–68
utility, 67, 161
Wright Tariffs, 330
Primates, social, 93, 311
Proactivity, 193
Probability, 130, 152, 199, 296
weighting 83
Problem Child (business), 34
Process, 18
Processes, business, 29
Processing:
claims, 232
distributed, 271
embarrassingly parallel, 238
graphics, 102
parallel, 232, 236–237, 242
perceptual, 309
serial, 236
Processing (continued)
  speech, 3
time 268
untethered, 103
Processors, 235
Procter & Gamble (P&G), 4, 32, 39–40, 262
Product:
  business, 289
differentiation, 36–37, 55, 231, 286, 332, 346, 348
  life cycle, 84
  Lifetime Service (TiVo), 289
Product Leadership strategy, 34, 36, 231
Production operations, 81
Production response, 200
Production, mass, 53–54
Productivity, 17, 20, 70, 86, 92, 122, 137, 247
  labor, 58, 83, 122
Productivity Paradox, 19–21
Products, 9
Products Offered strategy, 34
Products vs. Services, 336, 345
Product-Service Systems, 336
Professionalism, 184
Professors, college, 189
Profit, 247
  motive, 287
  sharing, 307
Profit Impact of Market Strategies (PIMS), 34, 228
Profitability, 17–18, 72, 224
Programmability, 43
Programmable system, 273
Programmatic execution, 273
Progressive Insurance, 42
Promotions, Product 121, 200
Propagation, physical, 228
Propensity to repurchase, 128
Property acquisition, 137
Property, intellectual, 30, 286
Prophet, 245
Proportionality, 152, 207
  constant of, 202
  linear, 202
Proprietary processes, 148
Prosumer, 324
Provably correct, 261
Provisioning:
  accelerated physical, 150
  bare-metal, 12
  capacity, 202
  interval, fixed, 203
  resource, 84
Proximity, 174, 338
PRTM, 85
Psychology, social, 309
Public relations, 206
Publicity, 126
Pulier, Eric, 336
Puppy dog sale, 285
Purchases, postponable, 119
Purchasing delay, 312
Purchasing power, 148
Push updates, 281
Q
Quality, 228
Quality assurance, 306
Quality of Experience, 86
Quality of Service on demand, 273
Quantities allocated, 207
Quantities billed, 207
Quantization, capacity, 148
Query, search, 128, 238, 240, 262
Question Mark (Business), 34
Queueing, 128, 193
R
Race to Zero, 227
Rackspace, 53, 91, 160, 289, 335, 344
  Cloud Private Edition, 289
Radius, 257, 260
Rajagopal, Ravi, 29
Rallies, 183
Rallies, Idea, 95
Rambo, 299
Rambo Architecture, 299
Random walks, 204–205
Randomness, 109, 183
  perception of, 188
Rangaswami, J. P., 43
Rapid elasticity, 65
Rapidity, 230
Ratio, peak-to-average, 342
Rational economic decision-makers, 137
Rationality, bounded, 304
Index

Reaction, instantaneous, 193
Reactivity, 193
Reality, augmented, 9
Reality, virtual, 9
Reception, cellular network, 257
Reciprocal agreements, 148
Recognition, 201
Recommendations, 95, 231
Recorder, personal video, 42
Recycling, 4
Red Lake, 24
Red Sea, 246
Reduction, setup time, 32
Redundancy, 297–298
Redundancy, On-Demand, Pay-Per-Use, 300
Reed’s Law, 321
Reengineering, 267
Reeve, Dana, 116
Reflex, knee-jerk, 251
Reformation, Protestant, 5
Regulation, country, 55
Regulations, European privacy, 70
Regulators, 336
Reilly, Christian, 151
Reinforcement, Intermittent Variable, 307
Reinsurance, 335
Rejuvenation, 346
Relativity, Theory of, 204
Reliability, 127, 298
Reneging, 126
Rensselaer Polytechnic Institute, 40
Rent vs. buy, 159
Rental car services, 141–142, 201
Renting, 147
Repair, 4, 295
preparation, 295
Repatronage, 230
Replicability, of data, 22
Replication, 87, 98
asynchronous, 178
data, 79
information, 271
Repository, 285, 326
Representatives, manufacturers, 333
Reputation, 135, 330
Request-response:
cycle, 249
latency, 266
Requests for Proposals (RFPs), 149
Research, 4
Research and development, 196
Research in Motion, 299
Resellers, 332
Reservation, capacity, 334
Resolution, video, 263
Resorts, 210
Resource, 266
allocation, 71
distributed, 74
perfect, 66
dedicated, 159
excess, 193
pooling, 65, 225
provisioning, dynamic, 72, 142
use, 71
Resources:
human, 32
insufficient, 193
owned, 171
pre-provisioned, 72
Response time, 169, 177, 230, 245,
249–250, 260, 262, 266–269, 284
Response, dynamic, 193, 201
Responses, autonomic, 251–252
Responsiveness, 69, 72
Restaurant, 126, 281
bill, 283
Restoration, 295
Retailers, 186, 210, 221, 285, 335
Retailing Management, 184
Return on Invested Capital, 67
Return on investment, 313
Returns, 4
diminishing, 218, 236, 255, 262, 268,
295, 325
risk-adjusted, 196
Revenue, 87, 122, 196, 230–231, 245, 262
generation, 85
loss, 128
lost, 70, 225
Reward, Intermittent Variable, 307
Rewards, individual, 311
Ricardo, David, 80
Rifkin, Jeremy xvi, 6, 40
RightNow Technologies, 63
Rights of Entry, 177
Rights of Way, 177
RightScale, 333
Rigidities, core, 83
Risk:
  adjustment, 83, 290
  aversion, 160, 304
  behavior, seeking, 305
  fashion, 23
  management, 186
  reduction, 88
  voluntarily assumed, 308
RIT Experts, 86
Ritz-Carlton, 346
Rivalry, competitive, 149
River Rouge, 38, 334
Roads, Roman, 1
Roaming rates, 306
Robbins, Jesse, 299
Robert H. Smith School of Business, 196
Rock, David, 109, 189, 311
Rocks, pet, 23
Rogers, Roo, 6, 96
Roku, 63, 97, 173
Rolls-Royce, 34
Roman Empire and Republic, 1, 96
Roth, Thomas, 242
Rotich, Juliana, 9
Rotman School of Management, 12
Roulette, 182
Russian, 88, 296
Round trips, 177, 232, 249, 260, 266–267
Route:
  101, 250
  80, 253
  control, 273
  diversity, 294
Router configuration, 150
Routing, 248
  intelligent, 273
  worst-case, 323
Rovio, 38, 330
Royal Air Force, 152
Rubinow, Steve, 227
Runtime, managed, 278, 288
Rutter, Brad, 236
S
  SaaS model, deconstruction, 288
  SaaS, private, 288
  SABRE, 23, 44
  Sabre Holdings, 24
Salesforce.com, 7, 63, 69, 91, 173, 283–284, 308
  Salomon Brothers, 182
  Sarajevo, 185
  Satisfaction, Customer, 18, 70
  Satisfaction, Employee, 87
  Sawhney, Mohanbir, 40
  Scalability, 50, 101, 285
  Scale, 53, 157
    significance, 137–155
    -out, 51
    -up, 51
  Scavenging, 274
  Scenarios, Strategic, IT-enabled, 349
  Scholes, Myron, 182
  Schultz, Howard, 289
  Scope creep, 74
  S-curve, 84
  Seal Team Six, 114
  Search, 3, 237–238, 283
    engine, 128, 247–248
    incremental, 247
  Seattle, 118, 257
  Second Life, 93
  Security, 2, 3, 49, 59, 92, 140, 148, 153, 286, 305
    vulnerabilities, 307
  Seer-sucker Theory, 190
  Seiders, Kathleen, 230
  Seika, Shinpuku, 9
  Selection, adverse, 331
  Selective recall, 187
  Self-service, 65, 75
  Self-targeting, 331
  Sellers, 324
  Senegal, 250
  Senge, Peter, 186
  Sensing, motion, 9
  Sensitive dependence on initial conditions, 183, 185, 339
  Sensors, 102, 172
  September 11, 117–118
  Sequence, random, 188
  Sequences, basketball shots, 188, 205
  Server:
    cloud-connected 64
    database, 101, 179
    game, 101
    hugger, 269, 272
    monitoring and management, 175
Index

385

performance, 272
performance-managed, 175
virtual, 177, 203
Web, 101
Service:
business, 289
catalogs, 285
definition, 128
nodes, 255, 257, 289
nodes, optimal number of, 269
operations, 141
provider diversity, 294
provider, midsize, 220
quality, 126–127, 160, 228
recovery, 283
ServiceMesh, 336
Service-Oriented Architecture (SOA), 287
Services, 9, 345
cloud, 82
managed, 57, 73
SETI@home, 74
Severance, 134
Shampanier, Kristina, 313
Shanteau, James, 190
Shaping, 99
Shared resource, 217
Sharing, 10, 219
Shelton, Rob, 85
Shepcaro, Eric, 228
Shipment, less than truckload, 129
Shocks, interest rate, 119
Shocks, oil price, 119
Shopzilla, 231
Short message service, 8
Shortcuts to success, 245–253
Sichel, Daniel, 20
Siebel, 7
Siegfried and Roy, 187
Sigmoid, 207
Silk browser, 232
Silverlight, 86
Simon, Herbert, 304
Simplicity, 331
Simulation:
complex, 43
Monte Carlo, 205, 282–283
Singapore, 249
Single instance, 279
Single point of failure, 297
Siri, Apple, 36, 171
Sister site, 179, 300
Situations, life-threatening, 309
Size is not destiny, 338
Size matters, 151
Skiera, Bernd, 305
Skills, 148
evaluation, 134
Skin response, galvanic, 188
Skinny Straw, 168
Skuler, Dor, 273
Skype, 63, 92
Slashdot, 119
effect, 116
Slideshare, 92
Sloan School of Management, 20, 83, 186
Small or Medium Business (SMB), 284
Smarr, Larry, 43
Smart Car, 151
Smart dust, 274
Smart grids, 64
Smartphone, 3, 172, 279, 288
Smith, Anna Nicole, 116
Smithsonian Museum, 93
Smokestack, 205
Smoking-hole disaster, 271
Smoothing, exponential, 181
Snake eyes, 213
SnapGoods, 6
Snoopy, 188
Snyder, Jesse, 341
SOASTA, 154
Social networking, 284
Société Générale, 182
Soda, baking, 34
Sofitel New York, 181
Software + Services, Microsoft, 336
Software as a Service (SaaS), 32, 78, 88, 97, 100, 160, 277, 308, 343
benefits, 277–290
Software:
creation, democratization of, 288
development, 88
geological, 24
management, 53, 150
Nebula, 53
open source, 30, 56
Solow, Robert, 19
Solstice, Pontiac, 116
Solutions, cost-optimal, 176
Somalia, 246
Sonus Networks, 117, 161
Sony, 153, 173–176
Sophie, Duchess of Hohenberg, 185
Sosinsky, Barrie, 167
South Korea, 153
South Pole, 262
Space, 239
Space-time, 235
Spain, 335
Spam, 99, 327
Span of control, 311
Spectrum auctions, 337
Speed, 100, 255
of light, 236, 249, 255
Speed up, 238–239, 267
Spending, total customer, 332
Spike, 70, 166, 176, 187, 342
increase in, 243
traffic, 116
Spinal cord, 251
Spinoza, Baruch, 44
Spitzer, Eliot, 116
SpotCloud, 333
Sprague, Kara, 84
Spring break, 120
Stackato Private PaaS, 289
Stall, George, 199–200
Stallone, Sly, 299
Standard Deviation, 161, 200, 215–217, 220, 270
Standardization of products, 346
Standardization, API, 345
Standards and standards organizations, 332, 344
Stanford Law School, 288
Stanford University, 60, 184, 229, 312
Star (business), 34
Starbucks, 53, 100, 179, 229, 255, 262, 266, 289, 336
Statement on Auditing Standards (SAS), 286
Staten, James, 160
State-Space models, 181
Statistics, 215
Statistics of demand aggregation, 138
Statistics of Scale, 52, 148, 213, 218, 269
Status, 283
need for, 311
Stefanov, Stoyan, 231
Stigler, George, 325
Stimuli, visual, 309
Stochasticity, 104, 152, 183, 188, 194, 349
Stock market, 188
Stock, capital, 20
Stops, ground, 99
Storage, 64, 248
cloud vs. local, 168
Content-Addressed (CAS), 91
hybrid, 343
mirroring, 174
replication, 174
virtual, 203
Stores, company-owned, 289
StrangeLoop Networks, 232
Stranger than Strange, 182
Strassmann, Paul, 21
Strategic Blue, 333–334
Strategic Planning Institute, 228
Strategy, 17, 33
alignment of IT and business, 42
Big Think, 35
Blue Ocean, 35
build-to-peak, 221
business, 19, 23–24
cloud, 29–44, 77
competitive, 33–34
corporate, 33–34
formulation, 35
Innovate-Leverage-Commoditize (ILC), 37
intentional, 286
IT, 17–27
iterated Prisoners’ Dilemma, 282
Strauss-Kahn, Dominique, 181
Streakiness, 188
Streaming content delivery, 1
Strebel, Paul, 309, 346
Stress, 308
Stuck in the Middle, 35
Stuxnet, 5
Subgroups, 321
Sublinearities, 206
Submarines, nuclear, 140
Subramanian, Krishnan, 286
Subscription-based pricing, 67
Subsea cable, 150
Subscription, 61
Success, 184
competitive, 18
Index

Suez Canal, 246
Sum of the Peaks, 222
Sumeria, 2
Sumitomo, 182
Sun Microsystems, 273
Sunk-cost fallacy, 310—311
Super Bowl, 116
Super Sunday, 116
Super-cruncher, 44
Superiority in Numbers, 152, 154
Supply chain, 37, 120, 186, 196, 221
Support, 4
Support, technical, 149
Surrowiecki, James, 190, 309
Surplus, consumer, 17
Surplus, producer, 17
Survivability, 271
Survival, competitive, 88
Sustainability:
  of advantage, 53
  community, 9
  environmental, 87
  margin, 149
  of strategy, 25
Swanson, Bret, 339
SwapStyle, 6
Swarovski, 346
Switch, 33, 348
Synchronization, 97, 176
Syria, 250
System dynamics, 152, 185, 200
Systems:
  biological, 2
  chaotic, 183
  closed, 288
  complex, 109
  complex adaptive, 348—349
  deterministic, 183
  distributed, 74
  random, 188
  shop floor control, 32
  technical, 152

T
Tablets, 306
Taiwan, 40
Taleb, Nassim Nicholas, 182, 186
Talent, 288
Tammes problem, 260
Tammes, Pieter Merkus Lambertus, 260
Tancer, Bill, 116
Tandem, 298
Tangibility spectrum, 128
Tapscott, Don, 12, 40, 41, 96
Target, 55, 184, 184, 337
Target.com, 211
Targets, budgetary, 144
Tariffs:
  block, 330
  linear, 67
  multipart, 330
  Wright, 330
TaskRabbit, 96
Tasks, sequential, 238
Taxes, 149
  credits, 149
  filing, 112
  preparation, 211
  treatment, 55, 269, 272
Taxis, 12, 57
Taxi meter effect, 305
Technologies, infrastructural, 25
  proprietary, 25, 49, 53, 55
  stable, 139
Technology, 149
  diversity, 294
  cloud as new, 50
TechTarget, 147, 150
Telecommunications, 55
  industry concentration, 337
Telefonica, 335
TeleGeography, 255
Telegraphy, acoustic, 317
Telemedicine, 60
Telephony, 8, 9, 118
Telepresence, 4, 9
Telx, 228
Tencent, 7
Tennis, singles, 198
Tesla, 44
Tesserae hospitalitatis, 2
Test pilot, 88
Testing, 295
  load, 154
Tethering, 179
Texas A&M University, 126
Texas Instruments, 59
Text messaging, 116, 119
Thanksgiving, 116, 161, 211
Theory of the Firm, 39
Index

Thermodynamics, 204
Thiele, Mark, 33, 348
THINKstrategies, 277
Threat, existential, xvi
Threshold, 207
Throughput, 99
Tiger, 187
Time:
  budget, 248, 250
  buyers, 229–230, 331
  compression, 38, 84
  consciousness, 229
  cycle, 23
  free, 240
  hedonic, 229
  to market, 85
  page load, 232
  passage, 229
  perception, 229
  processing, 237, 269
  sellers, 229–230, 331
  space vs., 239
  transit, 319
  utilitarian, 229
  to value, 85, 243
  value of money, 85, 87, 193
Time is Money, 235
Times Square, 347
Time-sharing, mainframe, 73
Tit-for-tat, 282
Title transfer, 145
TiVo, 42, 67, 97, 289
TM Forum, 336
T-mobile, 305
Tokyo University of Science, 293
Toledo, 183
Tooling, management and administration, 148
Topeka, 69
Topology constraints, 255
Topology, star, 318
Tournament, computer, 282
Tower Records, 7
Toyota, 39, 41, 44
  Production System, 33
Tracking, mobile, 4
Tracking, package, 25
Traction companies, 210
Trade secrets, 148
Trade-offs, consolidation and dispersion, 269
Trading, 182–183, 227, 265
Trading is hazardous to your wealth, 200
Traffic, 231
Traffic scrubbing, 154
Trails, 149
Training, 148, 280
Trajectory, prediction, 252
Transaction:
  convenience, 230
  elimination of need for, 266
  processing, 139
  time, 232
Transaction Processing Performance Council (TPC), 344
Transactions, commercial, 323
Transactions, market, 145
Transformation:
  industry, 88
  individual, 9
  social, 9–10, 349
Transmission, power, 140
Transparency, 282, 307–308
Transport mechanism, 22
Transport, air, 51
Traveling Salesman problem, 319
Travelocity, 24
Treacy, Michael, 34–35, 37, 86, 231
Tree, 319
  hierarchical, 322
Trend analysis, 134
Trenton, 249
Trial, 4
Tri-Gate, 347
Trigonometry, 261
Trilogy, 237
Trust, continuously earned, 282
Trust.salesforce.com, 283, 308
Try before you buy, 285
Tuck School of Business, 189
Tucker, Lew, 273, 339
Tunisians, 11
Turbines, 141
Turbulence, 83, 183, 185
Turkcell, 7
Tversky, Amos, 304
Twitter, 4, 6, 7, 11, 42, 63, 91–93, 97, 100, 110, 115–116, 283
Two Buck Chuck, 333
Typist, skilled, 248
Tzu, Sun, 153
Ubiquity, 69, 72
U-boats, German, 152
UBS, 182
Uncertainty, 309
Uncollectibles, 52, 149
Undercapacity, 132–133
Underhill, Paco, 228
Underwriters Laboratories, 344
Unemployment, 120
Unit circle, 323
United Airlines, 142, 324
United Nations, 5, 6, 336
United Nations, 336
United States (U.S.), 5, 112, 185, 250, 257
automotive sales, 120
Bureau of Economic Analysis, 20
Bureau of Labor Statistics, 20
Congress, 10
Cyber Command, 5
Department of Defense, 21
Department of Defense Information Assurance Certification and Accreditation Process (DIACAP), 287
Department of Energy, 119
East Coast, 253
economy, 20
foster care system, 10
Government intrusions, 153
National Institute of Standards and Technology (NIST), 344
Navy SEAL, 246
No. 2 Yellow Corn, 344
President, 4
West Coast, 253
White House, 10
Universal Trading Platform, 227
University of California, Berkeley, 39, 331
Davis, 200
San Francisco, 22
University of Chicago, 229
University of Maryland, 196
University of Michigan, 41, 282, 330
University of Minnesota, 331
University of Pennsylvania, 6, 20
University of Rochester, 19
University of Southern California, 21, 25, 30
University of Toronto, 12, 313
University of Warwick, 95
Unlimited rate plans, 332
Unpredictability, 67, 101, 104, 185, 193, 212
Unrein, Greg, 249
Updates, bidirectional, 178
Updates, capacity status, 2
Updates, frequent for SaaS, 278, 281
United Parcel Service (UPS), 88
Uptime, 293, 295
Urban agglomerations, 338
Urquhart, James, 348
USA PATRIOT, 6, 70
Usage, IT 19
Usage, predictable, 332
Usage-sensitive charging, 65, 72, 288, 332
Use Cases for Cloud, 91–100
inappropriate, 101–103
User experience, 86, 94, 101, 126, 174, 178, 269
User interface design, 232
User profile, 262
Users:
active, rational, 332
anonymous, 281
global, 237
heavy, 332
light, 332
Ushahidi, 9–10, 94
U-Stor-It, 277
Utility, 11
electric power, 12, 140–142
pricing, 65, 72
service, 345
Utilization, 82, 110, 146, 215–217, 221, 224–225
CPU, 280
effective, 148
factory, 127
resource, 173
weighted average, 211
Index

V
Valentine’s Day, 113, 116, 211
Value, 278
Value Chain, 40
Value Disciplines, 34–35, 86, 231
Value generation, 343
Value, economic, 146
van Schewick, Barbara, 288
Vance, Ashlee, 64
Vanderbilt, George, 93
of outcomes, 88
Variable, random, 209, 217, 218
Varian, Hal, 330
Variance, 161, 215–218, 220, 270
Variation:
aperiodic predictable, 104
periodic predictable, 104
unpredictable, 104
Variety, 312
Velocity, feature, 299
Vendor selection, 149
Verizon, 7, 117
Vertical expertise, 338
Via, 1
Video camera, 263
Video conferencing, 58, 172, 248, 252
Video surveillance, 64, 172
Virginia Tech, 188
Virtual Concatenation (VCAT), 177
Virtual server, 279
Virtualization, 12, 50, 60, 66, 72–74, 129, 148, 195, 219, 299
Virtuous Cycle, 38, 85, 342, 349
Virtustream, 333
Viruses, 99
Visibility, 282, 306, 308
forecast, 197
Visualization, 3D, 24
VMware, 7, 219
Vogels, Werner, 349
Voice over Internet Protocol (VoIP), 7, 64
Voice recognition, 209
Volatility, 104, 183
amplification, 120, 186
reduction, 211
Volume discounts, 160, 169, 334
Volume purchasing, 141
Volume, calling, 117
von Neumann, John, 185
VPLEX, EMC, 178
vsphere, VMware 219
W
Wagenaar, Willem, 188
Wait time, 126, 228
perception, 229
Wall Street, 245
Wall Street Journal, 97
Walmart, 7, 32, 41, 55, 86, 184, 262, 337
Walmart Connect, 41
Walmart.com, 7, 112, 161, 184, 211
page views, 111
Walt Disney Company, 330
Wardley, Simon, 37–38, 345
Washington Post, 4
Washington, D.C., 11
Water wheel, 139
Watson, IBM, 236
Waveform, 228
Waves, 25
Web, 75, 228, 230, 238, 248, 262
app, 171
hosting, 179
news, 211
page, 128, 247, 251–253
performance engineering, 231–232
search, 242
servers, 174
sites, 110, 185, 206, 233, 255, 317, 326
weather, 211
WebEx, 63
Wedding and taxi analogy, 241
Welch, Jack, 33
West Texas Intermediate crude, 119, 333, 344
Wharton Business School xvi, 6, 20, 40, 190
What’s In It For Me (WIIFM), 287
Whips, 186
White, Shawn, 115
Wholesalers, 186
Wiersema, Fred, 34, 35, 37, 86, 231
Wi-Fi, 36
Wii, Nintendo 252
WikiLeaks, 6
Wikinomics, 96
Wikipedia, 91, 97, 110, 285, 329
Williams, Anthony, 96
Willingness to repurchase, 86, 230
Wind, Jerry, 40
Window into underlying technology, API as, 344
Window, externally imposed, 112
Windows, Microsoft, 146, 336
Windows Live, Microsoft, 110
Wine, 66
Winner take all, 85, 88
Wired, 31, 306, 330
Wisdom of Crowds, 190, 309
Woodcock, Bill, 154
Word of mouth, 126
Workloads 219, 243, 270
deferrable, 121, 331
discretionary, 331
immediate, 331
interactive, 121
large, 154
maximum size, 269
migration, 219
schedule-based, 331
Works councils, 134
World Economic Forum, 336
World of difference, 227
World of Warcraft, 93–94
World population, 338
World Trade Center, 117–119
World War I, 152, 185
World War II, 152
World Wide Wait, 247
World Wide Web, 119
Worlds, virtual, 9
Wormholes, 249
Wound, self-inflicted, 111
X
Xbox, 336
XenServer, Citrix, 219
Xerox, 21
Y
Yahoo!, 7, 63, 110, 231–232, 245
Yale University, 109, 308
Yankee Group, 43
Yellow Cab, 346
Yet2.com, 95
Yield management, 128, 196
Yoo, Christopher, 6
YouTube, 7, 31, 63, 93–94, 110, 173
Z
Zambia, 250
Zara, 23, 31, 37, 184
zCloud, Zynga, 100–101, 151
Zeithaml, Valarie, 127
Zero-price effect, 313
Zimmerman, Martin, 119
ZocDoc, 96
Zuckerberg, Mark, 24
Zynga, 42, 84, 100–101, 151, 179, 207
Platform, 290